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3.25 watts minimum output. • Sideband receiver adapter* for single and double sideband reception. • New Zener Diode shunt noise-clamp and series gated limiter circuit for highest noise limiting ever achieved. • New ultra-low drift oscillators for unsurpassed stability. • New Hi-Level Tone-Signal. • Illuminated "S" Meter. • 6V, 12V, 115V operation. • 15 watt construction. • Net Price including microphone and crystal . . . $199.95. • *Sideband receiver adapter optional $19.95 + inst. Optional accessories available. 6 Volt or 12 Volt cord, each $4.95. Crystal T or R, each $2.95. 90 day warranty. F.O.B. Burbank, California.

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DESIGNED TO COMPLY WITH REQUIREMENTS FOR CLASS "D" EQUIPMENT AS SET FORTH UNDER FEDERAL COMMUNICATIONS COMMISSION RULES.
MODEL VS-2, TRANSCEIVER, VIBRATION SERVICE RATED. FREQ. RANGE: 26-27 MC. POWER REQUIREMENTS: 12-14 VOLTS DC. - 115 VOLTS AC. MANUFACTURED IN U. S. A.
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First vibration resistant, two-way radio.

General Radiotelephone, already known and respected as quality leaders in the communications field, again prove themselves "years ahead in craftsmanship" in bringing you this compact two-way radio unit which has proven itself sturdy enough for outdoor use on all types of industrial and agricultural vehicles.

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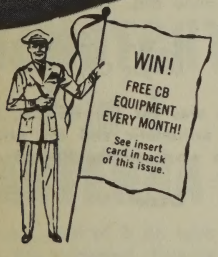
7. Designed especially for rough and tough service operation.

Net price including microphone, crystals for one channel and 115 volt power cord...only $139.95.

General's VS 2, because of its **Vibration Rated Service,** will meet every outdoor requirement and can be used with utmost confidence on jeeps, tractors, fork lifts or on any type equipment needing rugged dependability.



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OZZIE'S MAIL-BOX

Dear Ozzie—

I liked the article in the February issue of CBH on building the Mini-Mike. BUT—Allied Radio, Lafayette, Radio Shack and others fail to list such an item as the DS-25. Help!

Major V. L. Smith (Ret.)
Daly City, California

Major:

In my column for October Mr. W. C. Caldwell of Delco's Radio Division, Kokomo, Indiana noted the DS-25 is a direct substitution for the DS-22 (common) and is interchangeable with the DS-26 (new).

Ozzie

Dear Ozzie—

After reading "Pre-Mature Antenna" in an old issue of CBH (September, 1962-Oz.), I decided to tell you my problem. I live just outside the city and in a real hole. Therefore I have a great deal of difficulty getting my signal out. A neighbor of mine tried a beam, but the hill just stopped his signal. I also have troubles from the high tension lines. Do you have any suggestions?

J. A. Edwards, KDB0281
Columbia, S.C.

J. A.:

Move to the top of the hill?

Ozzie

Dear Ozzie—

On November 9th my International Executive Model 100 transceiver, Serial Number 15385 CC, was stolen from my car. With it was a Motorola Pre-Amp, and the set was wired to accept both high and low impedance microphones, with external speaker jack added and the perforated outer case painted to match. Maybe some of CBH's readers can help me get it back?

Peter W. Smith
10108 Mulberry
Oak Lawn, Illinois

Peter:

We hope so. Sounds like someone wanted an Exec real bad! Stealing CB rigs is a Federal offense, incidentally, since the unit is licensed by the Federal government. We'll help out with the search by donating $25.00 cash to anyone supplying information that leads to the return of the set and the apprehension of the thief. This should teach thieves to fool around with CB Horizons' readers!

Ozzie

Dear Ozzie—

Have appreciated your furnishing a continuing ream of information in the form of bulletins to Clubs on the proposed rule making Docket 14843. I am the FCC advisor to two CB clubs, the Bow-Fin Club and the Findlay (Ohio) CB Radio Club. I might explain further that I am a ham for the past 40 years, First Phone and Second Telegraph for the past 25 years, and am presently retired from the Ohio State Patrol Communicatons' system. By the way, although several of the National magazines for CB have been subscribed to by members of the local clubs, I find that the feeling is that they have been let down by them in this FCC proposal fight and CB Horizons "has carried the ball." Therefore, will you please send me several of your group subscription blanks for clubs so that I may pass them around?

Bart J. Geib, W8WE-19A5661
Van Buren, Ohio

Bart:

Group forms on the way. CB Horizons is particularly adept at "broken-field" running when it comes to carrying the ball. This comes from plain old everyday experience. There's still no substitute for knowledge!

Ozzie

Dear Ozzie—

We incorporated the Makino limiter circuit in four HE-20 transceivers and were delighted with the result (See Mobile Handbook—Ozzie). I further found that by bending pin 1 over to pin 2, thereby tieing the two together, that the sensitivity of the set improved considerably. Should it?

F. L. Williams, 1Q0520
Boston, Massachusetts

F. L.:

Author Kyle says this probably lowers the forward resistance of the diode but does not increase the backward resistance. This could raise the sensitivity, which as you have found, is probably the case. Congratulations fellow design engineer!

Ozzie

Hello Ozzie—

I constructed the crystal controlled receiving modification in your September issue for my base and mobile units, Lafayette HE-15B's. In the car as well as on the base, it saves the bother of tuning and drifting. On the HE-15B, the crystal frequency has to be refigured because of the 455 kc i.f. The i.f. coil might also need adjusting as mine did. Keep up the good work for us CB'ers!

P. Wm. Moratto, KED2529
League City, Texas

P. William:

The September article was for the HE-15A, but as you say, a little quick arithmetic and the principles applied can be made to work on the HE-15B or any other set.

Ozzie

Dear Ozzie—

I would like to congratulate you on the finest CB magazine that I have had the honor of reading. I believe I have seen all of them, and by far CB Horizons is the finest. It has more technical and just plain old "newsy" articles in it than all the rest.

Enclosed you will find our club's order for 21 1963 CB Call-Books. I would also like to thank you for the Special Bulletin on the new FCC changes. Our club is one jump ahead and will be standing by on channel 14 within a few weeks.

Brown Thornton, KDB5075
V.P., Radioactive CB Club
Oak Ridge, Tennessee

NOW...DIRECT FROM ECHO!

UTICA T&C II

$199.95 Prepaid or **$19.95 DOWN**

JUST $16.50 PER MONTH FOR 12 MONTHS

THE NEW UTICA T&C II TRANSCEIVER — Employing a six channel selector with crystal controlled transmit and receive sections and also a fully tunable receiver section providing reception on all CB channels. The most stable tunable receiver on the 11 meter band!

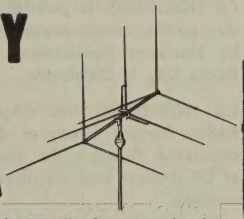
IN ADDITION — The Utica T&C II incorporates Calibrated "S" Meter with output-power modulation indicator and external speaker terminal.

ALSO ADD — The highly efficient performance of a dual conversion super-het receiver with amazing sensitivity, exceptional transmitter, double gated noise suppression, improved squelch circuit, automatic volume control and universal power supply providing 6VDC, 12VDC and 110VAC operation in each and every unit.

THE SUM TOTAL — Equals an extremely high performance instrument in a cabinet of sparkling, sturdy chrome including press-to-talk ceramic microphone with coil cord and microphone jack.

The unit is packaged complete with 1 set of crystals and 1 power cable of your choice.

GIZMOTCHY 2 in 1 ANTENNA



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ADDRESS .....

CITY and STATE .....

☐ Please Send Literature.

CITIZEN COMMUNICATION MANAGERS

Citizens Communication Managers are volunteer reporters appointed by CB Horizons to report on Operating News and Special Events in their districts. CB Horizons welcomes inquiries from readers interested in becoming a reporter for an unrepresented district.

1-KBF K. F. Knight, KBA5750, 14 Shadbush Rd., Warwick, R. I.
G. W. Long, 1Q6002, Andover, N. H.
George Michaels, 1Q1657, Box 7, E. Woodstock, Conn.

4-KCF R. L. Rhinehart, KCF1492, 314 Liberty St., Hagerstown, Maryland

5-KCI J. P. Setliff, 5Q2388, 608 S. Best Goldsboro, N. C.

7-KDH H. Pinney, 7Q0523, Cocoa Beach, Fla.

9-KED John Hudson, 9Q0026, 235 Englewood Dr., San Antonio, Texas

11-KEJ R. V. Watson, 11Q1125, 2206 W. Palo Verde Dr., Phoenix 15, Ariz.

12-KFC Dick Southern, 12Q3113, 90 Hobson, San Jose, Calif.

14-KFI Fern Fechner, 14Q1295, 118½ Parkhill St., Cashmere, Wash.
R. L. McChesney 14Q1113, Saco, Montana.

16-KGE V. Tareski, 16W1728, 1372-12th Ave. N., Fargo, N. D.

17-KGH J. Leversee, 17W3361, Box 53 Janesville, Iowa.

18-KHA/B R. E. Combs, 18B1711, 212 Bolivar St., Owensboro, Ky.
R. D. Cooper, 18A7297, Elkhart, Indiana.
D. C. Wolcott, 18Q4803, RFD 1, Cedar Rapids, Iowa

19-KHG/H V. L. Cuker, 19W9224, 45996 Brentwood Dr., Mt. Clements, Mich.

20-KIC Jack Marshall, 20W8023, Box 260, Canastota, N. Y.
L. C. Adams, 64 Earl St., Rochester, N. Y.
Tom Fend, 20Q2247, Butler, Penn.

CB MEETING CALENDAR

The backbone of the Citizen Band movement in the United States is the series of CB jamborees, picnics, and conventions held throughout the year. CB Horizons urges that you attend such events when held in your area and that you attend regular monthly CB club meetings. Have your club notify this department when special events are planned for listing here.

A NEW SECTION WE WELCOME YOUR CONTRIBUTIONS

OUR COVER

March 19—the deadline cut off when all those parties who had prior to March 4 filed comments with the FCC on the Part 19 proposal will have to have their REPLY COMMENTS in the hands of the Commission. At this point we all sit and wait, and sincerely hope that the FCC has the good sense to realize that the Citizens Radio Service is for the Citizens . . . ALL THE CITIZENS, not merely a cherished few.

CB HORIZONS is published monthly, issued the 10th day of the month preceding the dated month of issue, by Horizons Publications, Inc., P.O. Box 1557, Oklahoma City 1, Oklahoma.

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CB HORIZONS accepts bona-fide advertising from firms selling electronic units, components and services. Advertising rates and data available upon proper request.

CB Horizons is one of seven publications from Horizons Publications. Horizons Publications, Inc. is a privately owned stock corporation with no financial, physical or voting ties with any manufacturer of electronic units, components or services.

CB HORIZONS welcomes contributions and suggestions from its readers. Manuscripts contributed without benefit of prior solicitation cannot be guaranteed to be returned.

EDITORIAL

CHANNEL 24

BOB COOPER, JR.—KEG2607

IT CAN HAPPEN AGAIN

Events of recent weeks have proven once again that a government regulatory agency is not infallible.

The FCC is faced with a decision they feel empowered to make. Should they tell 200,000 CB radio licensees that the equipment they have purchased can no longer be used in the manner they have been using it in the past (thereby obsoleting more than 100 million dollars of equipment in one fell swoop, and putting countless thousands out of business and work), or should they redesign their proposed rules and find a place in the regulations for the **hobby** radio user?

To the FCC the decision is a most difficult one. On the one hand they are being pressured by the Amateur lobbying groups who don't want to see a 'hobby radio service' established that would in any way parallel the amateur radio service. On the other hand they are being pressured by Congressmen, Governors, CB manufacturers, CB clubs and CB'ers individually, who seek a small amount of radio spectrum space so that the average citizen can enjoy relatively unencumbered two-way communications.

This reminds us, personally, of an episode that occured some two - three years ago in the far west. We were particularly well versed on the problem because we were at the time publishing a journal for people who didn't have local television reception and who had to depend on television 'booster' or repeater devices to bring them television. For the most part these out-back Americans lived in mountainous canyons or valleys where the straight shooting television signals didn't reach. These enterprising individuals solved the no reception problem by climbing to a nearby mountain peak and erecting antennas to pick up the distant station, there upon they piped the TV signal into a device that converted it to a new channel. Then the amplified signal was **boosted** or amplified on the new channel and fed back into another set of antennas which **re-broadcast** the distant TV signal down into the valley. The valley residents erected their small outside television antennas and they soon became 'first-class' citizens with all of the television privileges of their big city cousins.

Well, the FCC didn't cotton to well to these booster devices and they quickly had a field force running around from mountain top to mountain top shutting down the boosters. After all, the boosters were television transmitters, and since they weren't licensed, the FCC felt compelled to enforce its regulations about unlicensed transmitters!

This ring around the mountain top game of checkers continued for about six months with new boosters coming on the air daily and the citizens of the enraged valley burgs turning on the boosters just as soon as the FCC people would shut them down.

The FCC, pressurized by the TV broadcasters who worried about protection for their multi-million dollar installations from these little ½ to 1 watt TV boosters, tried to outlaw the whole deal by imposing fines, jailing violators, etc.

The valley residents of 13 western states meanwhile were up in arms. About 500,000 people were affected. They wanted TV . . . they had figured out a way to get it, and all of the fancy FCC engineers and lawyers in the world weren't about to deprive them of television.

The upshot of the whole matter was a barrage of protests lodged with Congressmen, Governors and everyone else high up who would listen to the little people's pleas.

Soon the FCC was shown such a demonstration of force that they were forced to write into their rule books a section for Television Translators (boosters legalized)

CONTINUED—Page 47

It's Bound To Be The Best ...It's A Browning

. . . all tube circuitry assures famous Browning base station quality and performance of Drake mobile unit!

NEW BROWNING DRAKE

. . . the smallest 23-channel mobile transceiver you can buy — has tube circuitry for utmost reliability.

DRAKE M-523 8" x 3" x 9"

Here's the one you've been waiting for — the Drake mobile unit designed and manufactured by Browning with the same components, tubes and features found in our base station equipment. Two models available for 6 and 23-channel operation. Crystal controlled transmit and receive, plus fine tuning. Price includes all crystals factory installed (on M-523), microphone, and DC transistorized power supply. Six-channel Drake M-506 also available. Same features as M-523 except six-channel operation.

The Greatest Pair On The Air

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R-2700-A is the world's most up-to-date CB receiver. Has antenna tuning control; planetary ball drive all-channel tuning control; silicon rectified power supply. Selective, sensitive, sensational!

23/S-NINE brings all-channel operation to your base station. Has standing wave indicator; Pi network circuitry; TVI trap; spotting switch and many other features that make it "the talk of the airwaves". Also available: Famous S-NINE and Compact transmitters.

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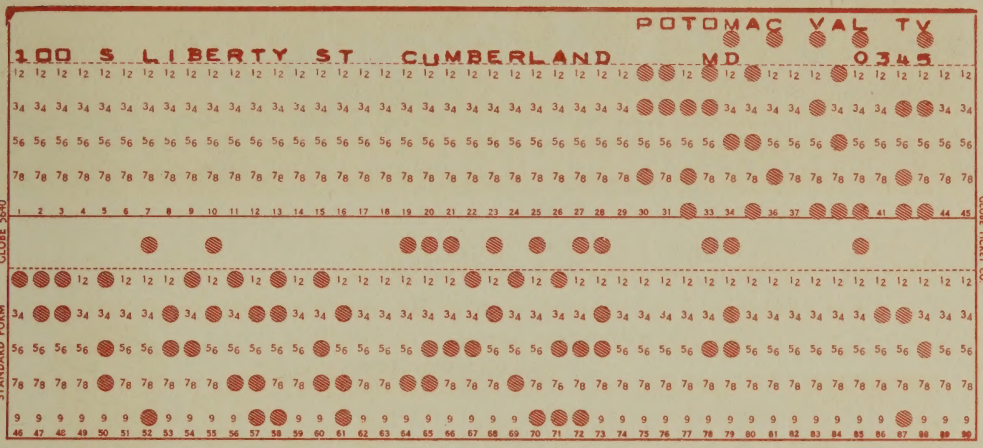

This **Univac Key Punch card** tells a story. It tells a complete story without saying word one. An electronic printer automatically **reads-out** the tiny holes punched into this card by yet another electronic key-punch machine. The tiny holes key the printer into automatically addressing to you your subscription copy of **CB Horizons** each month, as well as sending your way the July 1963 **CB Call-Book,** the September **1963 CB Mobile Handbook** and the January 1964 **CB Call-Book.** It's automatic, foolproof and **exclusive** with CB Horizons' ELECTRONIC LIBRARY SERVICE. Have you joined up yet?

Horizons Publications is the most modern electronics oriented publishing firm in CB radio. All subscriptions are now handled electronically by Remington Rand Univac. This makes possible all sorts of wonderful things, including our brand-new ELECTRONIC LIBRARY SERVICE. Now, one order card from you (FORM A on Reverse side of this card) brings you 12 months of **CB Horizons,** the Annual September **CB Mobile Handbook** and two (2!) **CB Call-Books.** Purchased separately these 15 publications would cost you $16.00, or more. But now, through Horizons, you pay a total of only $12.00 with just $4.00 down! The same electronic key punch card (similar to the one shown above) will not only send you all 15 publications, it will also bill you in May and again in September for the remainder of the $12.00. **Think of it!** One order and you can forget about all of your CB reading and reference material for one complete year. And, you can budget your payments through the year. What's more, UNIVAC is virtually foolproof. Everything is processed electronically to your home.

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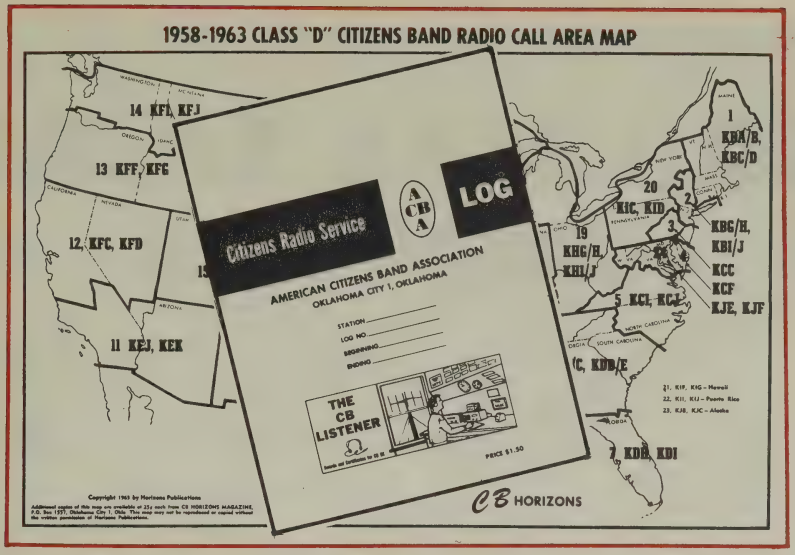


EQUIP YOUR STATION FOR CB DX!

The CB Horizons DX AWARDS program is in full swing. On March 1, 1963 thousands of CB radio licensees began their search for CB QSL cards to verify that they would soon be able to claim having heard all 50 states, 5 foreign countries or 3 continents . . . **on CB radio!** Still other CB'ers are working towards winning the 'HIAS' award — **the king of them all,** granted only when an operator can submit CB QSL cards he has **received** from all 50 states proving that **he has been heard** in all states with his mighty five watts! Now CB Horizons makes available a special AWARDS PACKET. A packet of three items you need now if you are working for CB awards. This packet includes (A) 50-page specially prepared CB Logbook with check off areas to keep track of states heard, etc.; (B) Attractive 17" by 22" 1963 CB Call-Area wall map showing in two colors all call-area designators for the period 1958-1963; (C) 'Guide to CB DXing Awards', with everything you need to know about earning awards for your station. The complete DX AWARDS PACKET — just $2.00 each postpaid to your door, using the card to left.

AND

NOW — more than ever, you will need an up-to-date CB Call-Book, listing all of those thousands of strange calls to be heard on skip and DX. YOU NEED the complete CB Call-Book set available in 5 books from Horizons. START your Call-Book set today by ordering the brand new 1963 Yellow covered CB Call-Book, more than 300 pages filled with the calls and addresses of nearly 130,000 Class D CB stations issued in 1962.

USE FORM C TO YOUR LEFT TO ORDER THE BRAND NEW 1963 CB CALL-BOOK from CB Horizons — Only $4.50 per copy postpaid to your door!

COAXIAL CABLE TECHNIQUES

JIM KYLE,10W0901
TECH EDITOR, CB HORIONS

You undoubtedly own some of it.

You may even, at times, have wondered whether it was any good.

You probably weren't able to find out. It's not easy to tell whether it's good or bad.

What are we talking about? Why, the coaxial cable—usually called just "coax"—that connects your transceiver to your antenna.

In many, if not most installations, the coax is handled as something of an afterthought. We can imagine a typical conversation between a CB dealer and the new CB'er:

"Okay, I'll take two of these transceivers. Gimme a good base antenna—I sort of like that Xylflot Super-Gee—and a short whip for the mobile. I'll need rocks for 7, 9, 11, and 23. Guess that's it."

"Anything else?" responds the dealer. "Let's see here—how about some coax?"

"How much does it cost?"

"I have RG-58 for 6 cents a foot and RG-8 for 13."

"What's the difference?"

"The RG-8 is bigger."

"Gimme a hundred feet of the 58 then. Gotta save some money." And the happy new CB'er carts his goodies away to spend many happy hours putting it all together (we'll leave him at this point).

The fact that so many people know so little about coax, its characteristics, and how to handle it is almost tragic, in a way, because the coax cable—**all by itself**—can make or break a typical base station installation.

Most of you will pay an extra $50 or so to get an additional watt of RF power output from your transceivers; lack of knowledge about your coax may be costing you as much as **half** of that precious power, lost between the rig and the antenna!

So let's take a long and detailed look at coax, its whys, and its wherefores:

WHY IS COAX USED?

If anyone were to ask you "Why do you use coax?" your answer would probably be "To get the power from the rig to the antenna and back again." It's a good answer—but it's not complete.

Any electrical conductor can be used to connect a transceiver to an antenna. Way back in the thirties, long before CB, the standard "transmission line" was a pair of copper wires spaced from 2 to 6 inches apart.

This type of transmission line is still used by many super-power stations (operating at multi-kilowatt levels); its modern cousin is the familiar TV twin-lead cable connecting the boob-tube to the rooftop jungle.

People **have** been known to use just a single wire and get good results.

Both of the methods are a little less expensive than using coax. So why go to all the fuss and trouble?

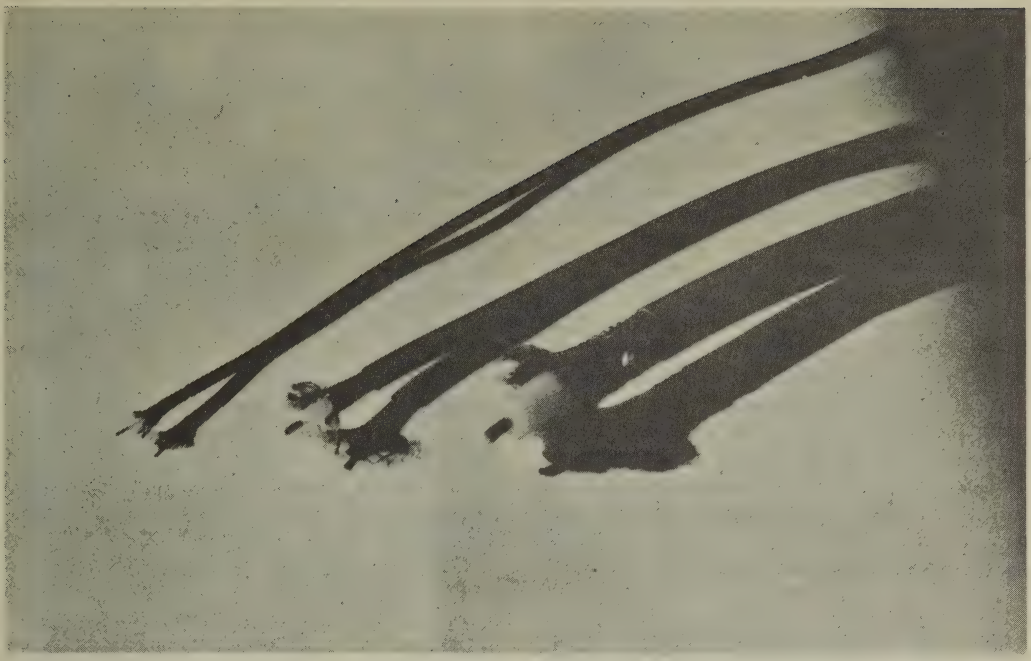
If you've been on 11 meters long, you already know about ignition noise from passing motor vehicles. Electric motors in power tools and small appliances also contribute noise, as do many other devices.

One of the best ways to keep noise out is to **shield** the gadget you want the noise kept out of.

And that was the first step toward coax. The old open-wire line was put into a tubular shield to protect it from all the noise floating around.

It worked nicely. Then somebody got the bright idea—why waste wire? The shield itself could take the place of one of the wires!

The result was air-insulated coax. The term coaxial means simply that the two conductors share the same axis—or in other



CB COAXIAL CABLE—from the smallest to the biggest. Left to right, RG-58/U, RG-8/U and RG-17/U. Not shown in Belden 8214 polyfoam (sometime's called Teflon) coaxial cable which has the same diameter as RG-8/U but exhibits loss qualities similar to RG-17/U at 27 megacycles. RG-58/U is recommended only with mobile installations, or base installations of 25 feet or less. RG-8/U is recommended only when Belden 8214 or similar Polyfoam is not avaiable locally. RG-17/U is recommended for exceedingly long runs up to 500 feet where RG-8/U would lose most of the signal in the run from antenna to shack.

words the center of each conductor occupies the same point.

If you want to see some air-insulated coax, take time out to visit your nearest TV station. Most of them use it to pipe the transmitter output up the tower.

It's big and bulky stuff; not at all suited to our uses. But it proved the point that coaxial cables were far superior to open line so far as performance in high-noise areas was concerned.

Came World War Two. The military had urgent need for RF transmission lines suitable for use on aircraft—where the noise level is far higher than you'll ever find on the ground. Air-insulated coax was out because of its bulk and difficulty of handling. The problem went to industry—and they came up with a flexible, solid-insulation coaxial cable.

That's the same stuff we use today. The numbers on it reflect its military origin—the RG part of the number is the old military nomenclature for flexible RF transmission line of the coaxial type!

With flexible solid-insulation coax available, equipment designers began tailoring their gear to use it—and sometime thereafter, CB came into being.

By the time we came on the scene, coax was the almost-universal standard; it was only natural that all our equipment should be designed to use coax cable.

WHAT IS THE STUFF, PHYSICALLY?

The coax cable most of us know appears, from the outside, to be a fairly large black wire. Under the black outer insulation, there's a woven copper-braid shield. This is the outer conductor. Underneath that, we find a clear plastic (the plastic's name is polyethylene) insulating layer, and in the middle is a copper wire—the inner conductor.

In most of the smaller types of coax available, the inner conductor is a solid wire. In the larger sizes, it's stranded.

The relative diameter of the inner conductor and the outer conductor is important, because it determines one of the major characteristics of the cable — its "impedance". Most transceivers and almost all antennas are designed to be used with cable

having an impedance of 50 to 55 ohms.

This information would not be essential to know—except for one thing. Coax comes in two relatively "standard" impedance values and a number of other impedance values can be had—and of all these, the 50-to-55-ohm group is the only one you want to use unless other kinds are specifically called for.

Sometimes, when you're playing fancy multiple-antenna games, you may find a need to use short chunks of 75-ohm cable in your system—but this is far-out stuff when we're talking about everyday use. In general, stick to the 50-ohm group of cables.

Even so, you have quite a group of cable types to choose from; in the RG series alone, at least 20 cables are available with 50-to-55-ohm impedance. Half a dozen or so additional types are available in the new foam-filled cables—and an uncounted number of special types are available.

WHAT TYPES ARE THERE?

In the RG series of coax cable types, at least 20 types are available. Many of these are almost identical to each other, though. You will be interested only in RG-8, RG-17 (possibly), and RG-58.

Let's shuffle the order a bit and look at RG-58, since it's the most common, first. This cable is a little less than a quarter inch in diameter (the exact figure is 0.195 inches). It is the most flexible of all types (a variant, RG-58C, has a stranded inner conductor and lies limp as a test cord) but also is the most wasteful of your power since the smaller cable has higher losses.

Prices vary from locality to locality, and also from manufacturer to manufacturer, but 6 cents per foot in small quantities appears to be about average for 58.

Next most common is the larger RG-8. This cable is just under half an inch in diameter (exact figure, 0.405 inches). Compared to RG-58, it's pretty stiff stuff, requiring a bending radius of something like 10 inches. It soaks up much less of your signal, however.

Average price of RG-8, subject to the same variations mentioned above, is about 13 cents a foot.

The king of coax cables for CB use is RG-17. This was originally developed for very-high-power use, but its main advantage for us is the extremely small amount of power loss it will introduce.

This is massive material, nearly 7/8 inch in diameter (exact, 0.870). It's as stiff as it is big; bending radius is something like two feet.

Not many of us will be willing to pay the price, either. It runs about 65 cents a foot, require special connectors which cost several dollars apiece—and is not readily available in many regions.

But when you want virtually all your power to go out the antenna, with none lost in the line, RG-17 is the answer (provided your line is shorter than about 200 feet).

Not included in the RG series are the new foam-filled cables. These are almost identical to RG-8 in appearance, but instead of having a solid polyethylene insulating layer inside, they have a layer of "polyfoam" which consists mostly of microscopic air bubbles. Instead of being clear, this layer has a milky white look.

The air in the bubbles causes this type of cable to have lower loss than RG-8, but it's still not so low-loss as RG-17. One manufacturer says the loss of his foam cable is 35 percent less than RG-8; no detailed characteristics are available on it.

Unlike the RG series, in which the same cable bears the same number regardless of who made it, these cables must be ordered by manufacturer's number.

Amphenol calls theirs 621-111, while Belden's version is Type 8214. Average price of either type is about 16 cents a foot.

WHAT'S ALL THIS ABOUT LOSSES?

We've been talking quite a bit about the "losses" of the various types of coax; let's look a little closer at what causes these losses and what they can do to you.

As you know, any "conductor" has at least a little resistance. This means that the longer the wire, the less current can get to the far end.

This is just as true of RF current as it is of the more conventional kinds. RA resistance in the cable is the source of one kind of loss.

In addition, any two conductors separated by an insulator form a **capacitor**; the two conductors of the coax are separated by an insulator, and sure enough the coax looks like a capacitor. In fact, this is one way to make a very small capacitor—just cut off a couple of inches of coax and connect one conductor to one lead and the other to the other!

If you've been doing any reading up on radio theory, you know that RF energy will

Pwr	RG-58	RG-8	RG-17
3 W	26 feet	61 feet	149 feet
2 W	93 feet	221 feet	540 feet
1 W	209 feet	495 feet	----------
½W	325 feet	----------	----------
1/10W	594 feet	----------	----------

LENGTH OF CABLE REQUIRED TO REDUCE
3½ WATTS OF RF TO STATED VALUE

pass through a capacitor as though it were not there—provided the capacitor is large enough in value.

So the coax, if it's long enough, would look like a dead short to the RF!

Except for one thing; any straight wire also has what is known as "inductance", and inductance opposes the flow of RF energy in the same way a capacitor looks like a more-or-less short.

The particular balance of inductance and capacitance presented in any one type of coax is really what is meant by that term "impedance" we met a few paragraphs back; the practical effect is that the line will never look like a complete short, but will, instead, look like an ordinary resistor of the same value as its impedance. That is, a line of RG-8 stretching out to infinity would look, at the near end, like a 50-ohm resistor.

The larger the cable, the less capacitance it possesses. To balance the impedance, the wire inside must be made larger—and this reduces the RF resistance. The end result is that while many cables have 50 ohm impedance values, their loss ratings vary widely.

And the smaller cables have the highest losses.

RG-58 is the smallest of the cables we've been talking about. It's also the most popular. But unfortunately, RG-58 is no bargain in a base-station installation.

Specifically, if you put 3½ watts into a 93-foot run of RG-58 (not untypical for a base-station installation), you'll get only 2 watts delivered to the antenna. That's nearly **half** your power going **only** to warm the wire!

We've prepared a chart to show you how various types of coax compare in the loss department. You'll see that RG-58 has the most loss and RG-17 the least. How do these compare, pricewise?

According to the current Allied Radio catalog, 50 feet of RG-58 will cost you $2.65. The same length of RG-17 will set you back $31.85. So RG-17 isn't such a bargain either. But in the middle is RG-8, and 50 feet of this will cost you only $6.40. Is a doubling of your output power worth $3.75?

Not listed on our chart, since we were unable to locate accurate loss data on it, is the new "polyfoam" or foam-filled coax. Losses for this type of cable, called type 8214 by Belden and type 621-111 by Amphenol, are less than those for RG-8 but not so low as RG-17. Cost of 50 feet of 621-111 is $7.80.

The charts assume that you have a perfect match between your coax and your antenna, with SWR of 1 to 1. Any SWR will increase the losses above three figures. Low values of SWR will increase the loss slightly, while higher values of SWR can cause astronomical increases in the losses!

WHAT ABOUT THIS 'SWR' ANYHOW?

This term SWR stands for "standing wave ratio," and it's really a measurement of how well your coax impedance matches the impedance of your antenna.

That's a pretty "engineeringese" mess of words—let's try an example on for size. Assume you have a 100-watt light bulb. You plug it into a socket—but the socket isn't regular 110 volts; instead, it's the 32-volt supply used so widely in the old "Wincharger" farm-electricity systems.

The bulb won't light up like a 100-watter, you know. It may glow a dull red, but it won't be doing very much.

Take that same 100-watt bulb and plug it into a socket on a railroad passenger car (of the older variety). It will be a bit brighter, but not 100 watts worth. Because the old railroad car has a 55-volt supply.

When you plug the bulb into a 110-volt socket, though, it glows 100 watts worth.

CONTINUED—Page 27

TRICKS OF THE TRADE

Last month (March CBH) we announced a series of brand new and exciting certificate type awards to be made to CB radio licensees who can qualify.

Let's review the awards here and what it takes to earn them.

First of all, the awards are given for **hearing** or **having been heard by** other CB licensees in (a) **all 50 states,** (b) **5 countries,** or, (c) **3 continents.** Obviously it is one thing to hear stations in the CB service from each of the states, etc., but it is going to be quite something else to have your own 5 watt station **heard by** CB'ers in each of the 50 states, etc.

The general rules of the CB Horizons Certificate Awards program are now available in a small booklet entitled 'Rules and Tips for Better CB DX' available from CB Horizons. (See page 13)

This month's feature on the subject of CB DX reception is actually a forerunner to a regular 'DX and Awards' column which will appear in CBH each month starting with next month's May issue.

We do want to note here that in addition to the regular 6 awards presently available from Horizons (more awards are in the planning stages), we have encouraged CB clubs around the country to set up their own awards programs. We have suggested, in a special report made to CB clubs in mid-February, that clubs establish awards to be presented to skip or DX (**distance**) stations that log and verify (with QSL cards) having heard 5, 10, etc. of their club members.

For example, the CB-11 Radio Club of Buffalo, Minnesota would establish a certificate or award to be presented to any CB'ers 50 or more miles away who can log and collect CB QSL cards from 5 or more members of the CB-11 Radio Club.

We urge all club groups to establish an award on behalf of their local group. CB Horizons will be more than happy to give national publicity to any such club established awards. National publicity, of course, is important so that 'listening CB'ers' will know who to look for when they are chasing Awards and Certificates.

When your club has an awards program established, and the rules set up by which you will present your award, forward both a specimen copy of the award and the rules (including a list of at least twice the number but **not more than** three times the number required calls—i.e. club member stations —necessary to win the award) to CB Horizons for publicity in our new 'DX and Awards' column.

Once your awards program is set up and rolling, keep us advised whenever you issue or present a certificate to someone qualifying for the award. This we will pass along in 'DX and Awards'.

OPERATING TIPS

One of the main purposes of the CB Horizons Awards program is to encourage CB'ers to be better listeners. More people listening and fewer talking will help to keep the band activity at something less than the saturation plus level we now have in many areas.

It is hoped that as we all become active in the awards program, collect the CB QSL cards and listen-listen-listen, operating techniques and equipment will improve.

Many of us will want to add earphones to our transceivers, for example, to take advantage of the improved readability of weak signals that earphones offer. Others will want to graduate to the more sophisticated 23 channel transceivers and still others will begin looking at communications receivers with Hammarlund, Hallicrafters, National, Globe-RME, Heath and Knight

nameplates.

Still others will be interested in improved receiving antennas such as rotary beams and VEE wire beams.

Naturally CB Horizons will be interested in technical and operating articles by readers who have been able to develop more efficient antenna installations, receivers or listening techniques.

THE RECEIVER

The heart of the listening station is of course the receiver. Most single conversion transceiver-receivers lack split channel selectivity. This means that they will seldom give up a signal on channels 8 or 10 when a strong local is on channel 9. The local is simply so strong that his signal broadens out the selectivity of the receiver until he covers channels 8 and 10 too.

Most dual conversion transceiver-receivers do not have this problem. Selectivity will be an extremely important commodity then because with a highly selective receiver you can rest assured that you will have a minimum of 'slop-over' trouble from strong local signals on adjacent channels.

And let's fact it. With a half dozen strong local signals on the air, they may tie up not only the 6 channels they are on but 2 extra channels each, i.e. the channels either side of the channels they are on. This means 6 stations can tie up a total of 18 channels! And that doesn't leave many for **DX Listening!**

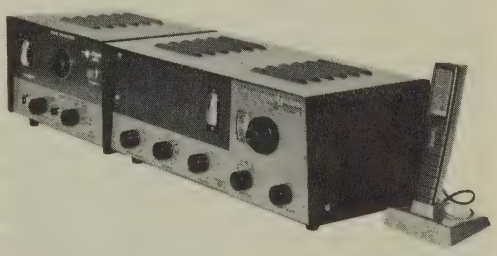
So we tackle the selectivity first. The ultimate answer to improved selectivity is the use of a communications receiver. Many of the pre-1959 amateur communications receivers not only tuned the 11 meter (then) amateur band, they also had a calibrated special dial for what is now the Citizens Band. Most such receivers can now be picked up for approximately 50 percent of their original selling price. The CB'er can quickly mark off the calibrated dial reserved for 11 meters (called the bandspread dial) with the 23 CB channels.

Once marked, the 11 meter bandspread dial will give you untold hours of listening pleasure and selectivity you are probably missing with a single conversion transceiver.

Many of the presently manufactured amateur receivers retain an 11 meter bandspread dial and a few (such as the receiver portion of the Hammarlund HQ-105TR) also have the dial calibrated with the CB channels.

Hammarlund HQ-105-TR offers eight channel CB transmit with push-button crystal adapter and tunable CB coverage of all channels with dual-conversion communications receiver.

Of course there are 23 channel transceivers on the market today for CB use which have as much CB selectivity and sensitivity as you will probably ever want. The Browning R-2700 is an excellent example. Since it features Bandspread Tuning on all 23 channels, users of this rig will find they have **the band covered.**



Browning's R-2700 is the grand daddy of double Conversion super selective CB unit receivers. Unit offers hair splitting selectivity, maximum CB sensitivity.

Browning's R-2700 receiver is a dual conversion superheterodyne 23 channel tunable receiver with a high degree of selectivity. Signals that pin the needle at 40 db over 9 just **begin** to slip over on the upper and lower adjacent channels.

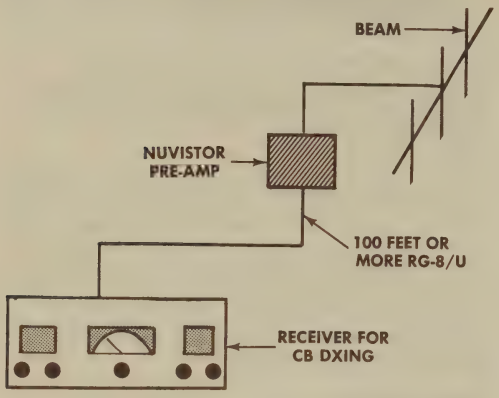
Mechanical selectivity is often a good sign that electrical selectivity will be good or not so good. Receivers which require very few (if even one) complete revolution of the tunable knob from channel 1 to channel 23 will probably be hard pressed to give the operator the mechanical 'feel' of selectivity.

THE ANTENNA

There is no regulation against having a CB **receiving** antenna high and clear. No such regulation is pending nor is it likely that such a regulation could be put into

effect by the FCC since **it has authority only over the transmission of radio signals,** not their reception.

There is no reason, then, why the CB DX Listener cannot erect a separate tower, mast or whatever, to support a beam or ground plane configuration antenna for receiving. As a matter of fact, many CB'ers have already done this to improve their mobile to base reception and base to base reception.



Nuvistor pre-amplifier mounted in a weatherproof box at the antenna can be fed power (voltage) up the coaxial line through an AC isolating network or by separate power cord. Mounted at antenna, used strictly for receiving, the Nuvistor pre-amp amplifies the signal where before it is attenuated by long run of coaxial cable to receiver thereby giving maximum signal to noise ratio and highest signal level. AMECO (178 Herricks Road, Mineola, New York) and International Crystal Mfg. Company (18 North Lee, Oklahoma City, Oklahoma) manufacture Nuvistor pre-amplifiers. Antenna Specialists M-81 'Black Box' offers similar features with line powering in a single package.

With a strictly receiving antenna mounted high and clear in the air it is adviseable to look carefully at the amount of signal you will lose between the antenna and the receiver, in the coaxial feedline. If you are planning to run more than 100 feet of RG-8/U coaxial cable you will probably find that a Nuvistor preamplifier mounted either at the antenna (best) or ahead of the receiver will be of considerable benefit.

CLEAR CHANNELS

Of course when skip is in, there is no such thing as a 'clear-channel'. None the less there are some channels which tend to have less activity than others. Since the greatest enemy of one skip station is another skip station, it is best to stick to listening to the less popular channels where clear identification of the skipper is possible.

Channels 3, 5, 8, 10, 12, 13, 14, 16, 18, and 20 usually have the least use, depending on local activity.

When you are looking for a particular state in (say) the 14th call district, pull out your 1962 CB Mobile Handbook which lists nearly 2,000 towns and cities and their monitoring channels, or the 1963 CB Call-Book/Handbook which also lists approximately 2,000 local and regional monitoring channels, and spot a channel or channels in

Honest—I was only listening!

use in the state you are searching for. Stay away from the busy channels, 9 and 11 in particular, if possible.

Then sit yourself down on that channel with your pencil poised and your logbook ready, and listen. Of course we assume you wouldn't be sitting around listening unless you were already hearing skip from the 14th (or whatever) call district!

Of invaluable reference will be the set of five CB Call-Books issued to date. The W, A-B, Q and 'K' series Call-Books from Horizons list the call letters, name and address of stations licensed in the Citizens Radio Service.* You'll need these books yourself, through your local club or through a friend, to be able to locate and identify the stations you are hearing, and send them CB QSL cards.

SCHEDULES

Contacting or talking to these DX stations is **strictly forbidden,** even by present FCC regulations. However, if you are having particular difficulty with one or a few states (i.e. trouble in logging and getting CBL cards from these states), CB Horizons' new 'DX and Awards' column will gladly list your call and address and the channels

CONTINUED—Page 39

PART 3

STACKING CB BEAMS

Parts one and two of this series on CB beam antennas discussed what a beam antenna is and how it can be mounted on an existing tower structure.

This final and concluding report will deal with the stacking of beam antennas for superior antenna gain in a given direction.

Because of Part 19 restrictions on antenna height, it is most difficult to mount a rotatable CB beam for transmitting purposes and still be legal. Under the **present** Part 19 it can be done provided you don't object to stretching the law a bit. Under the proposed Part 19, even stretching the law won't help you.

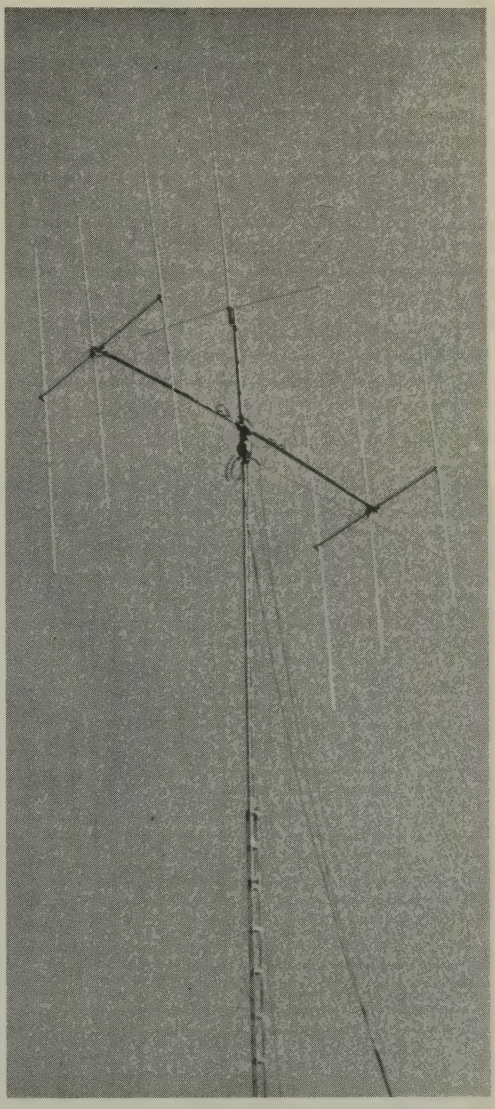
The present Part 19 allows you to mount a CB transmitting antenna on an existing antenna tower or mast, even a television receiving tower or a mast, provided the CB antenna does not extend above the top of the existing antenna, tower, or tower plus antenna.

An existing **receiving** antenna for CB radio is included in this general catch-all of the Commission (FCC). In the photos shown here a 27 megacycle Antenna Specialist Magnum antenna is mounted on top of an eight foot section of rotating mast which itself sits down inside a CDR HAM-M rotator mechanism. The HAM-M rotator in turn rests on top of a 72 foot crank up tower.

This places the top of the Magnum some 99 feet in the air . . . a most respectable height for a CB **listening** antenna!

Now below the Magnum is mounted a twin three HY-GAIN M-113B beam array. This antenna is strictly for transmitting.

The center of the twin three element beams are mounted at the rotator level, or some 74 feet above ground. The top of the twin three transmitting beam array is then approximately 84 feet above ground. This, according to **present** Part 19 rules, is 15



99 FEET TO THE TOP, this unique CB array consists of an Antenna Specialists Maggie on the very top of a rotating mast for receiving and a twin three HY-GAIN beam array for transmitting. The beam is 74 feet off ground at center.

feet lower than the top of the receiving array and is therefore quite legal.

Of course the **proposed** changes to Part 19 seek to require that all CB transmitting antennas be no more than 20 feet above the top of the structure (excluding antenna receiving towers) they are mounted on, or if mounted on a mast sunk in the ground, not more than 20 feet above ground. While this particular section of the proposed rule changes did draw as much fire and comments as any **two** other sections combined, it is still proposed and **may** become law before Part 19 is finally settled.

So if you can't mount a transmitting antenna on an existing receiving tower, (except if the top of the CB antenna is not more than 20 feet above ground) how do you mount and utilize beam antennas, **legally**?

The new proposals do allow you to mount your CB transmitting antenna on an existing tower utilized by an antenna or antennas for another radio service. In other words, if you are a member of Civil Air Patrol (for example), you could mount your CB transmitting antenna on the side of the CAP antenna tower and be legal.

The same authorization applies to a Business Radio Service authorization, an Amateur Radio station, etc.

You can side mount on a tower, provided you don't go over the top of the tower **plus** antenna with your CB antenna, provided the tower is used to support the antennas for a different licensed radio service.

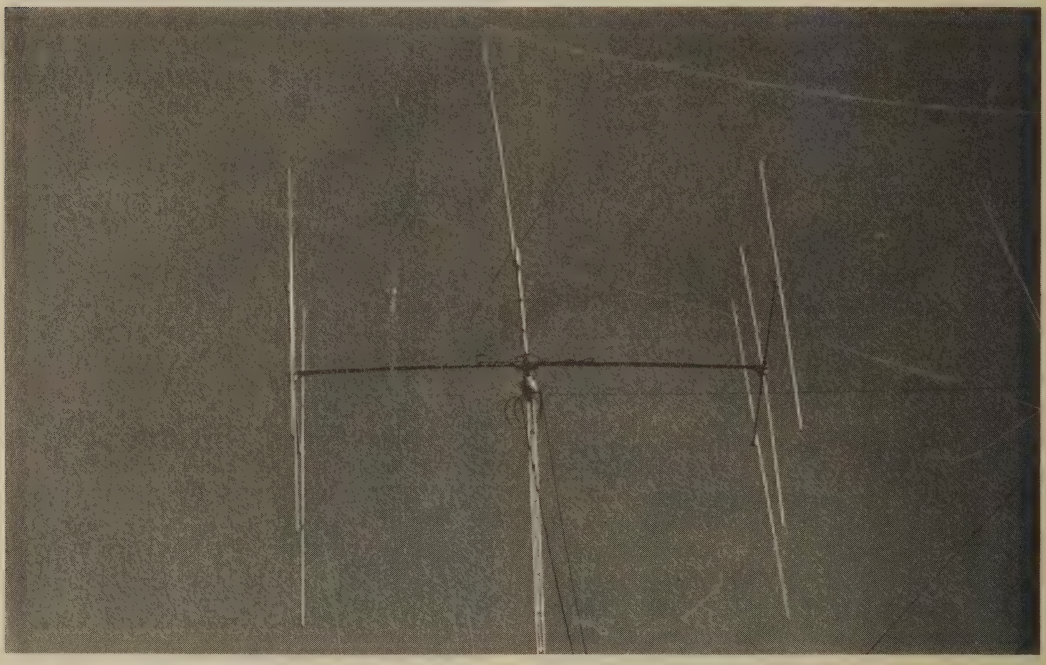
Or you can be illegal.

But back to our example array. The transceiver feeding this antenna array is a modular unit, ala Browning. The receiver is connected via a separate feedline to the Magnum and the transmitter is connected to the twin three beam. The Magnum plus receiver sifts out the signal the station is searching for and then the beam homes in the desired direction and transmits to that station or unit.

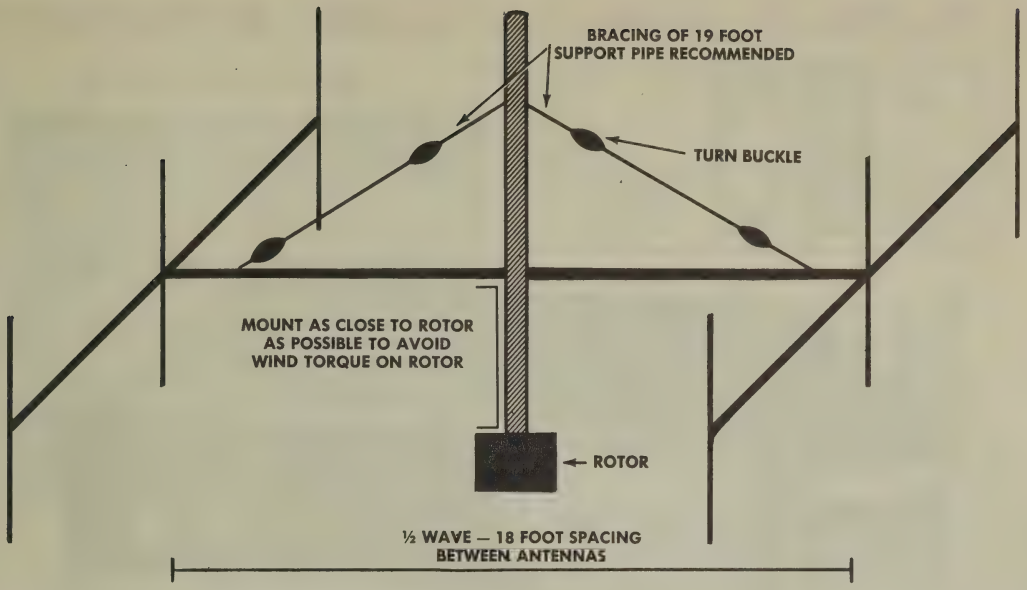
Low loss Belden 8214 Teflon coaxial cable is utilized in this installation for both transmitting and receiving since the feedline runs all off 120 feet before reaching the **shack**.

A coaxial switch allows the operator to **switch** to the beam for **receiving** if necessary for added receiving directivity when the skip is heavy.

The Magnum rotates with the beam, but since it has a perfect omni-directional pattern, it doesn't make any difference which way it points. It receives equally well in all



COAXIAL PHASING LINES are visible in the center of the 19 foot horizontal support pipe which spaces the two 3 element arrays 1/2 wavelength apart. The rotator appears as a metalic glob at the top of the crank-up steel tower. The Maggie on top is for receiving. Marks above antenna and to right are jet trails.



directions.

The actual stacking of the two beams delivers a forward gain of approximately ten (10) db. This means that if two (2) watts of RF power reaches the antenna through the low-loss 120 feet of coaxial cable (see separate report on coaxial cable, this issue), the power is multiplied by a factor of 10, resulting in an **effective radiated power of 20 watts.** This may not seem like a great deal of power multiplication unless you realize that you are now as much as 1 wavelength (approximately 36 feet) above the height of a legally mounted ground plane antenna mounted on the roof of a twenty (20) foot building which effectively gives you an additional 6 db gain over a conventional mounted ground plane omni-directional antenna. The end result then is a power multiplication factor of 10 db (antenna gain) plus 6 db (antenna height) for a total of 16 db gain. This makes your 20 watts effective radiated power much closer to 50 watts effective radiated power, the exact figure depending on your system gain.

A single 3 element yagi antenna nets you approximately 7 db forward gain, again the exact amount depending on antenna design and local factors. Adding another 3 elements, or doubling the original number of elements, gives you 3 db more antenna gain. Everytime you **double** the total number of antenna elements in a beam array (i.e. 3 to 6, 6 to 12, 12 to 24, etc.), you gain an additional 3 db (actually slightly less than 3 db) of antenna gain **over** the original array.

The actual inter-connection of the two beam antennas (i.e. tieing them together as one antenna) is done with a coaxial phasing line. The coaxial phasing line is an exact length of coaxial cable cut so as to allow you to feed the transmitter power into the two antennas in phase so that each antenna helps the other, not fights it. In the case of this array the HY-GAIN coaxial phasing kit and beam stacking kit was purchased to do the job. HY-GAIN supplies the long 19 foot piece of thick walled steel pipe which forms the horizontal cross member to support the two beams. They also supply proper coaxial phasing lines to tie the two antennas together and provide a common tie point where the coaxial transmission line from the transmitter ties into the antenna.

The spacing between the two beams is 18 feet, or approximately ½ wave on 11 meters.

Attesting to the fact that the twin array plus Magnum works very well for its user is his consistent base to mobile contacts over distances to 40 miles and base to base contacts over considerably greater distances. The beam proved time and time again it was the only way of getting the message through when the going was rough.

One final note. The user felt that had he installed an Antenna Specialist Black Box antenna amplifier on top of the mast for the **Magnum** antenna on receiving, he

CONTINUED—Page 27

DOUBLE SIDE-BAND POWER

Conventional Transmit
Typical instantaneous modulation pattern.

"Range Gain" Transmit
Note increase in sideband (voice) power.

gives you up to 4 times more coverage!

Complete, ready to operate on all 23 channels — nothing else to buy.

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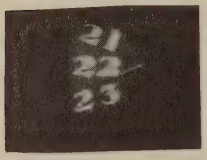
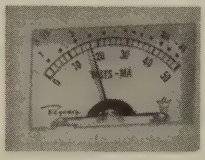
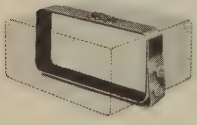


23 CHANNELS, all crystal-controlled



4-WAY METER, illuminated; 2 scales.



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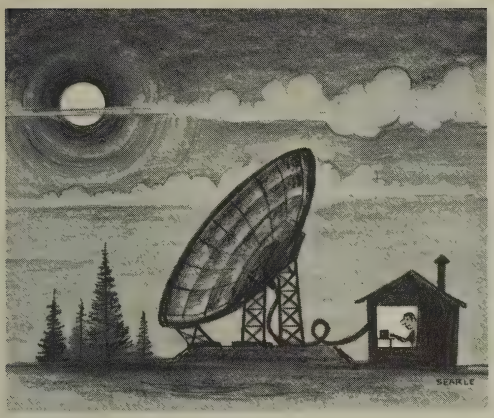
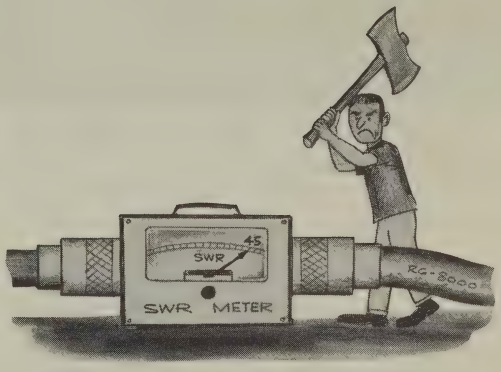
CB MOON BOUNCE



The CB man could not believe
Just what his friend had done.
Into a huge parabola
His 5 watts he had run!
Sixty feet by sixty
Stood the giant bowl.
The idea of a moon bounce
From the Army boys he stole.

He fed the dish with low loss line
The thickness of your thigh;
He planned to blast his signal
Through the blackness of the sky.
With rig tuned up and set to go,
He swung the screen around.
The friend just slowly shook his head
And on a chair sat down.
With confidence the other fellow
Tried his moon bounce shot,
And only when no echo came
He found that he could not.

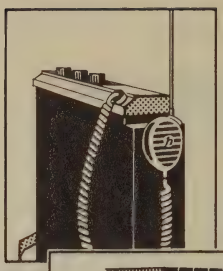


The friend now checked his buddy's rig
And told him to have fun
Trying to cure a standing wave
Of 45:1.

Moral: A bad check will bounce,
Never a bad signal.

by
David Moore
Caldwell, N.J.

Nothing fits all your CB needs like Hallicrafters' versatile *new transistorized CB-5*



AC Pedestal Power Supply, Battery Pak and Tone-Coded Squelch accessories optional at extra cost.

Wherever and however you use citizens band, no transceiver made gets around with the effortless efficiency and consistent high performance of the new CB-5.

A fraction over 3 inches high, 10 inches wide and 8 inches deep, its 18-transistor design solves all normal space problems in mobile or airborne use. Weight: 6¾ lbs. It has no vibrator, of course, and battery drain is negligible.

Specifications: 5 watts in; 100% modulation capability; 6 crystal-controlled channels; 1 uv sensitivity for 10 db. S/N ratio; 45 db. adj. channel rej.; PTT ceramic mike; 6 kc. selectivity at 6 db.; 18 transistors, 9 diodes, 3 instant-heat transmit tubes. Price: **$199.95.**

Hallicrafters CB-3A . . . Unsurpassed for range and reliability. $159.95.

- 8 channel, crystal-controlled convenience.
- Dual conversion for maximum rejection without loss of sensitivity.
- Optional S-Meter and "Racket Buster" Noise Eliminator with knock-out front-panel mounting.
- 100% modulation capability; output over 2 watts; 6 kc. selectivity; sensitivity less than 1 uv for 10 db. S/N ratio.

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COAXIAL CABLE—Continued

You have now matched the bulb to its power source at the level for which it was designed—and it operates the way it was designed to operate!

An antenna is somewhat similar. The coax can deliver **all** its power only when it sees a "load" which is a perfect match to its impedance.

If the antenna looks like a 50-ohm resistor, then all the power will be delivered. But if, instead, the antenna looks like 100 ohms, then only half the power will be delivered. The rest will bounce back down the line to the transmitter. Since it can't go back into the transmitter, it comes back up the line a second time, and half of what comes back goes to the antenna this trip (the other half repeats the trip again).

You can see that **eventually** almost all the power will be accepted by the antenna —and if you stop here then SWR doesn't seem very important. But take another look.

Let's say you have a 100-foot line. The power which gets out the first time goes through only 100 feet of coax. That which can't get out until the second time must travel through 300 feet of line! If it makes a third trip, it goes through 500 feet of coax. Add 200 more feet for every additional round-trip the length of the line.

And thus, your losses start to soar.

It works out to be a "Them what has, gets," situation, since if your losses are low to start with you'll be hurt less by a high SWR; if losses are high to begin with, SWR will rapidly eat up almost all your power!

In addition to all this, the SWR is also helpful as an indication of proper antenna tuning. Unless the antenna looks like a perfect 50-ohm resistor, you won't get a 1-to-1 SWR reading—and unless the antenna is properly tuned, it won't look like a resistor at all, much less a 50 ohm one!

Don't be misled into thinking that the antenna is the only possible source of a high SWR, by the way. All the way through this, we've been talking in terms of a single length of coax with no splices. But what if you have to lengthen your line a few feet?

A bad connection can cause high SWR and extremely high losses. The reasons are many and varied, but the result is this: the **only** satisfactory way to splice coax cable is to put a plug on the end of each of the pieces to be spliced and then use a commercial splicing adaptor which connects to the two plugs. It will cost several dollars to make the splice, but there's no other way to avoid trouble.

We mentioned putting plugs on as if it were a simple matter—and once you know the right way, it is. But many a coax connector has been shorted out by people learning how-to-do-it through the trial and error method.

With RG-8, the procedure is a little different. Accepted techniques call for careful tailoring of the inner conductor and poly insulator, then sweat-soldering the outer conductor to the plug through the four holes on the inside part of the plug.

An alternate way, in use for years by Horizons staffers, is to unbraid the shield far enough to be able to bring it to the **outside** of the plug from the back. Solder the inner conductor to the pin in the conventional manner (be sure the sleeve of the plug is on the line before you solder because it won't go on later!) and then thread the sleeve back down to its final position. Bring the unwoven shield down around the outside of the back part of the inner portion of the plug, and solder. Tape it well with vinyl insulating tape if you plan to use the plug outdoors.

Once your antenna and feedline system is operating at peak efficiency, you can start thinking in terms of 7788 preamps, speech clipping, and all the other range-boosting devices. But so long as you're throwing away half your power in the "cheapest" kind of coax, investing in any of the other devices is a waste of both money and time!

Good luck—and good range!

CB BEAM—Continued

might have measureably improved the level of weak stations copied on the Magnum.

ADDENDUM

Part one of this series, Page 24, February CBH, included a half page diagram of the affect of adding a director and reflector to a single dipole element, thereby creating a beam. The text and the letters in the drawing on page 24 did not properly correspond. All references to "cutting down on signals A and B but not cutting down on signal C" should have read so as to transpose letters A and C. Signal A was the one **helped** by the additional beam directivity, signals B and C were the two cut down or eliminated by the addition of the director and reflector to the beam. The diagram was correct, the text was in error.

The Editor

ROCKER BEAM

By Roger J. Koach, KEJ2499
Pomona, California

It is becoming more evident with every passing day that to get your signal anywhere, with a minimum amount of interference, a beam is a necessity.

This writer has devised a simple but effective beam that is easy on the pocketbook, and will still do the desired job. It is nothing more than a conical antenna, polarized vertically. We refer to this arrangement as a "Rocker Beam."

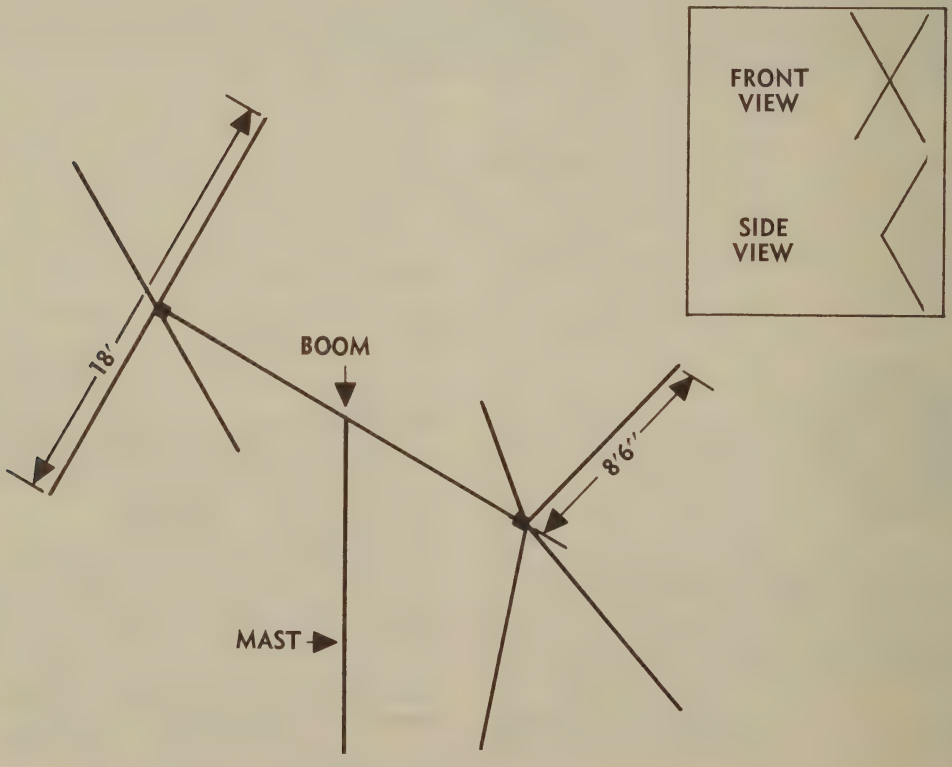
You have all seen V-cone TV antennas mounted on many a rooftop in a television area. These antennas have four long and two short elements at the front, and four extra-long elements at the rear.

The length and spacing of the elements is important to good TV reception.

The Rocker Beam uses this same principle, but rotates the whole affair 90 degrees, does away with the short elements, and stretches the remaining elements to proper lengths.

Ready to build one? Let's get started!

First, we need the head and heel por-



tions of a standard TV conical antenna. You may have a set on an old antenna out behind the garage, but if necessary a new antenna can be purchased for little outlay.

The next step is to take the whole antenna apart and dispose of all the elements except the horizontal boom. You may need small pieces of this boom for bushings when building the Rocker Beam.

Now, cut the new elements to length. Heat-treated aluminum tubing makes the best elements, but may not be readily available. Use any light weight, sturdy tubing capable of holding itself up.

Cut the four forward elements to lengths of 102 inches, measured from the tip of the element to the inboard end of the mounting hardware. Cut the four reflector elements to 108 inches, measured from the tip to the center of the horizontal boom,

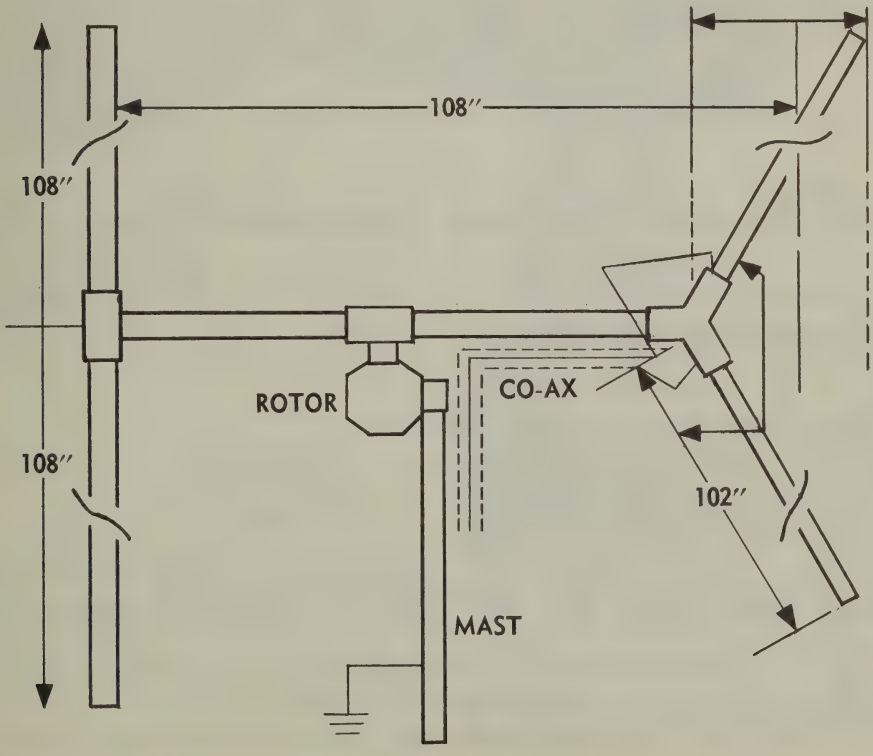
The boom length should be 108 inches, less one-half the distance from the headpiece to the plane of the forward element tips. This distance is determined by the angles the forward elements make with the boom, which in turn is determined by the specific TV antenna you get. The way to measure it is to assemble the whole set of forward elements, rest the tips on a flat driveway or garage floor, and measure the distance from the insulating headpiece vertically to the floor. Then take half this distance and subtract it from 108 inches to get the proper boom length.

Figure 1 shows a broadside view with dimensions, while Figure 2 is a perspective view of the whole thing to give you an idea of what it will look like.

Assemble all the hardware together and check to be sure it *does* look something like Figure 2.

Mount a co-ax connector at a convenient spot on the side of the head (front) piece, electrically connecting the outer or shielding portion of the coax to the two lower elements. Connect the center feedline portion of the connector to the two upper elements. It shouldn't be necessary to mention it but both mechanical and electrical unions are vital.

CONTINUED—Page 48



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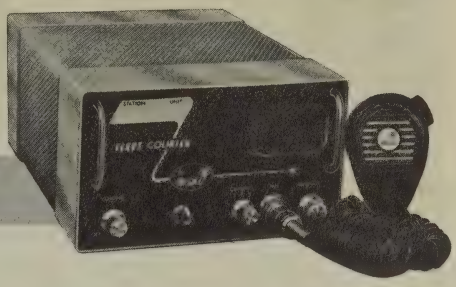

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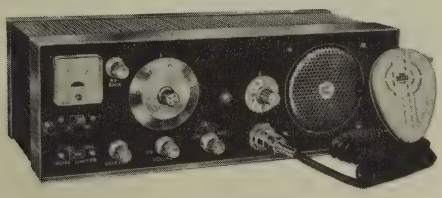
$13.30 per month for 12 months, or $7.25 monthly for 24 months.



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Only $209.50 or $19.50 down and $17.42 per month for 12 months, $9.50 per month for 24 months.

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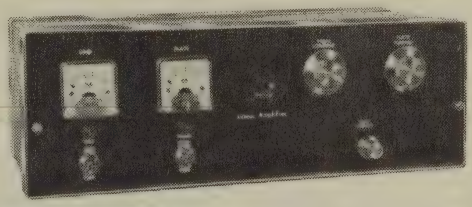

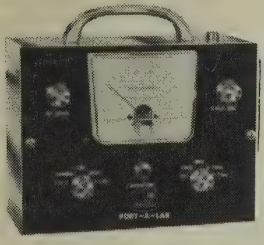

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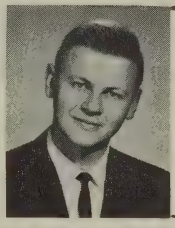

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With every M-1 Courier (Or you can buy it for just $24.87 prepaid.)

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- ☐ Attached is $159.50. Ship Fleet Courier.
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- ☐ 209.50 Enclosed. Ship me a new Courier 1-M and Magnum Antenna today.
- ☐ $14.50 down payment enclosed. Rush forms for Linear Amplifier. ☐ 12 mos. ☐ 24 mos.
- ☐ $159.50 Enclosed. Ship Linear Amplifier.
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- ☐ $24.87 Enclosed. Ship Magnum M-81 today.

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CB FUND DRIVE BEGUN

Following last month's CB Horizons story on the license revocation of Ernest L. Walker, 15W1670, literally thousands of CB'ers have contacted Walker and CB Horizons asking how they could help Walker's fight for more lenient Part 19 regulations regarding skip transmissions.

Walker has been hard at work on just this project for several months. In mid-January he issued a written **Challenge** to each of the FCC Commissioners asking them to debate with him the merits of the Part 19 proposal, in an open debate which he had scheduled for March 13-14 in Kingsport, Tennessee. United States Senator Estes Kefauver of Tennessee was contacted and asked to moderate the debate.

The plan called for an open session on Part 19 in which representatives of CB clubs from California to Main were to have been invited to attend and participate.

The FCC Commissioners refused to attend the debate, or for that matter, send a representative. The Senator from Tennessee found his schedule would **then** not allow him to attend the debate and be away from the new session of Congress.

Around the first of February a prominent CB manufacturer gave to Ernest L. Walker some very interesting information about an **alleged** $1,000,000,00 effort on the part of the Bell Telephone Company Washington lobby to force a tightening up of Part 19 provisions.

Armed with this **allegation** against the telephone company, Walker and his group renewed their efforts to have Congressional investigators look into the Part 19 problem.

The problem has now boiled down to forming an adequate offensive group in Washington itself to go to bat lobbying **for** the Citizens Radio Service.

At least two Senators are digging into the AT&T allegation hoping to learn if the peculiar "Telephone Answering Service" and "Telephone Phone Patching" sections in the proposed Part 19 were in fact instigated by AT&T.

Like any program of this type, it is and will continue to cost money. A group comprised of Ernest L. Walker, Espanola, New Mexico; Paul W. Thacker, Kenova, Virginia; Claude Horne, Kingsport, Tennessee and Vernon Jackson of Jonesboro, Tennessee are spear heading a **March on Washington** by CB'ers. The **March** is being designed to focus national and Congressional attention on the FCC's attempt to bring an end to the usefulness of the Class D Citizens Radio Service.

Preceding the March, which will be announced in advance in CB Horizons, and by direct bulletins to the CB clubs, Walker and his Committee intend to **soften** up the FCC and Congress with a series of in person meetings.

FCC reaction to the Ernest L. Walker forces is unknown at this time.

Walker's group plans a National Alliance of CB Clubs to be known as the **American Citizens Band Association** (ACBA). The initial intent of the ACBA is to form a lobbying force in Washington. Like the manufacturer's CEMA organization, it is being formed as a direct result of the threat of substantial changes in Pat 19.

Walker told CB Horizons that all CB clubs interested in preserving a **'workable'** Part 19 are urged to contact him immediately. Formal application criteria, that is, guidelines which the ACBA will follow in admitting clubs to the ACBA alliance, are now being drawn up.

The ACBA nucleus has up to this time refrained from accepting any financial support from manufacturers. Individual CB'ers and clubs have been financing the mailing and travel expenses of the organizers to date. With the expanded lobbying program now planned, CB Horizons feels that the time has come for a showing of national support behind a truly national organization

CONTINUED — Page 55

new! Hammarlund CB-23

$229.50
complete

REVOLUTIONIZES CITIZEN BAND CONCEPTS!

- Crystal-Controlled 23 channel RECEIVE
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- NO EXTRAS—Every crystal, push-to-talk microphone, cables and mobile mounting bracket included in **ONE LOW PRICE**
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Hammarlund's CB-23 really goes all the way. It provides you with crystal controlled stability on 23 channels—receive or transmit—with the added facility offered by the ±3KC Receiver Vernier Tuning Control. This amazing transceiver has every feature you have ever wanted in a citizen band unit. Peak "Talk-Power," dual conversion super-heterodyne receiver, noise limiter, adjustable squelch, and built-in S-meter to indicate relative rf transmitter output plus strength of the received signal—built-in . . . at no extra cost.

The CB-23 is ready to go—Just add an Antenna and you're "On the Air"

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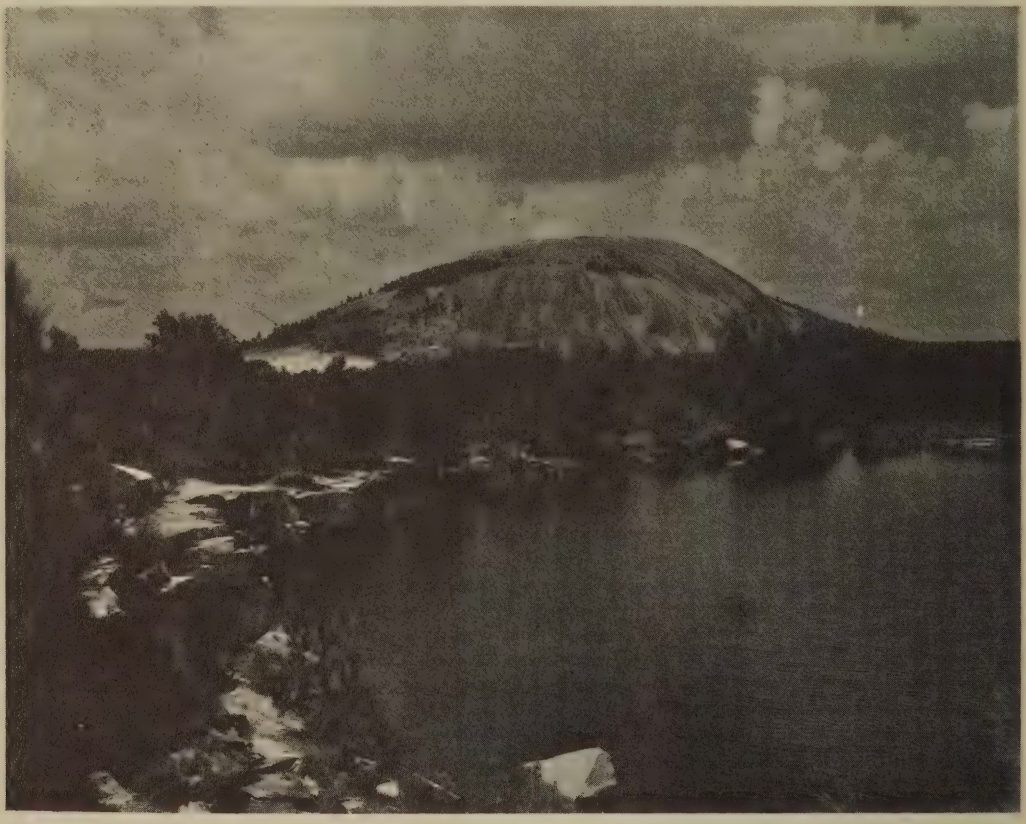
CITIZENS BAND DATEBOOK

A SERIES OF IN DEPTH REPORTS ON CB'ERS ACTIVITIES FROM COAST TO COAST.

A CB GIANT IS BORN

By Mel Welch, KDB0264
Dixie Communications Club, Inc.
P.O. Box 2004
Decatur, Georgia

Millions of years ago, as our earth was cooling, and shrinking, a huge monster pushed its way out of the ground. Its shape suggested a mammoth whale partially submerged in the sea of green forests around it. Gigantic as it is, the size is hard to realize. It is the largest exposed mass of granite in the Western Hemisphere, and rises 862 feet above the plateau. The exposed mass is 7 miles in circumference, and covers 563 acres. It is estimated to weigh 1½ billion tons, and if crushed up would fill 30,000,000 gondola cars which, coupled together, would make up a train nearly 3 times around the earth at the equator.



862 feet above the average terrain, Stone Mountain, Georgia will one day soon sport a complete base station installation operated by the Dixie Communications Club to monitor and relay communications traffic throughout Georgia.

When the English explorers first saw Stone Mountain, it was used by the Creek Indians on the edge of the Cherokee Nation. Being deadly foes, the Creek lookouts manned the mountain around the clock to watch for the Cherokee war parties. Blackened pits in which their signal fires burned are still to be seen on the summit. Indian councils between the tribes were held here, because all tribes knew where it was. Peace councils between the Indians and early settlers were held here. Throughout the country it was to become famous as a stagecoach stop, and later as a big resort.

The Dixie Communication Club, Inc. of Decatur, Georgia, being a communication unit of the State Civil Defense went to the Stone Mountain Memorial Association, asked for and received permission to install a monitoring station in the tower on top of the mountain. As soon as it is possible, 1 to 2 months from now, depending on the weather, the Dixie Communication Club, Inc. will be able to handle radio traffic to Atlanta from the Georgia boundaries on the North, East and West, and from as far South as Augusta, Macon, and Columbus. We will use the best citizen band equipment money can buy. It will consist of two Browning receivers and one Browning 23 channel transmitter. The money for this equipment was donated by Mr. Townsend, President of Atlanta Motor Lodges, Inc. The reason for two, is so we can monitor two channels all the time we are on. The club channel is 15. There has been good cooperation from the CB clubs around the area to let it stay free from a lot of chit-chat. In the past two to three weeks there has been a sudden flooding of new people using channel 15 for signal checks. It is a real threat to the success of the project if this continues. I have listened to enough of: How's my signal 10-4? You have a pretty good signal here 10-44. Come back let me tune you in 10-4. What's your 10-20, 10-4. I would like to make this pleading appeal to all in the Atlanta and North Georgia area. PLEASE don't use 15 for your silly checks. We want to be able to help you any time you ask, but what good is it if we must wait for somebody to say 10-4 30 to 40

TRAM 23 BASE

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Receiver performance is legendary -

Sensitivity - .1 uv. for 300 milliwatts of audio
Selectivity - 5 kc. @ 6 db. Adjacent channels 60 db. down
Signal to Noise Ratio - .3 uv. for 10 db.
Incredible weak signal readability-plus the unmistakable signs of Quality.

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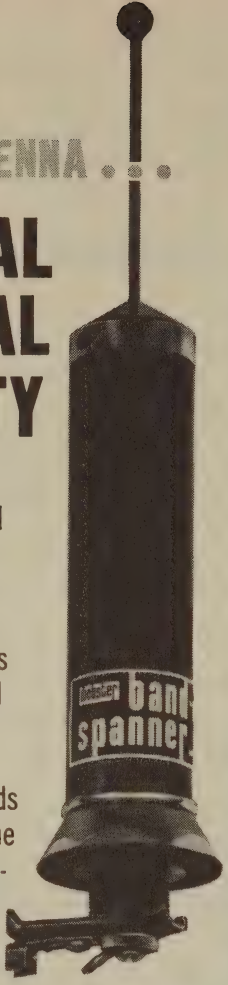
C-B SIGNAL WITH REAL AUTHORITY

Another finely crafted member of the super-quality Band-spanner antenna family. Here exclusive design gives that **big** mobile signal —and important— a signal that **stays big**—over long periods of operation under the most adverse environmental conditions.



A-65 features a strong, weather-resistant fiberglass coil form and jacket—is epoxy **sealed**—tight! Sturdy metallic parts of loading section are machined from solid-brass bar stock, are beautifully and durably finished in polished chrome. Antenna base receptacle requires ⅝"D hole, uses compacted internal holding clamp for low silhouette in car interior.

Loading inductor threads into base fittings, makes positive contact with mating coaxial connector, (is readily unscrewed for storage, etc.) Stainless steel whip, (42") secures to loading section with Allen head set. A-65 provides good impedance match to 52 ohm coax over the entire 27 mc. band.

webster band-spanner. 317 Roebling Road, South San Francisco, Calif.

Please send Band-spanner full line catalog and further information on A-65 antenna.

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Cable car rides to the top of Stone Mountain probably mean that operators of the Dixie Communications Club's Stone Mountain base station will be the only CB'ers in the nation who ride to club meetings via this unusual mode of transportation?

times. Stone Mountain is living again, and after these millions of years as a silent friend to those who sought her help, she is going to have a voice. One night she may sound like Larry Peevy, and the next like Ray Johnson, and the next night like any one of the other fifty members of Dixie Communication Club, Inc. Or it could be a CB'er who wants to be a member of a club keyed for progress. Whoever the voice might sound like, it will always be the signal that help is near, and a CB giant is born.

The plans are for a huge Southern Conference this next summer. This will be one of the biggest attractions to ever be offered the vacationing CB'er. Plan now to send us your confirmation just as soon as you see the date announced.

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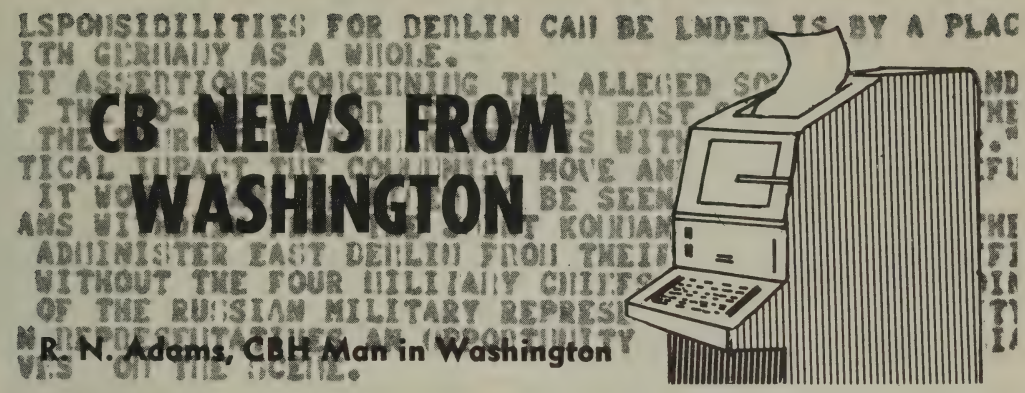

A BAD APPLE

The FCC recently released the longest single documentary in Citizens Radio Service history, dealing with the license revocation of a station.

The station, located in Virginia, had been originally licensed as a 4W. Upon moving he was subsequently granted another 4W call. It was with the second 4W call that the FCC began to close in on his operations.

While holding the second 4W call the licensee's authority to operate was challenged in a hearing at which the FCC sought to show the operator had been in violation of section 19.61 (a), (b), (c), (e), (f) and (g) of the Commission's rules. While this hearing was in process the licensee sought to change his operating station once again. He was issued a special temporary authority to operate as a 4Q licensee pending the final determination of the hearings.

The first instance of alleged violation took place on August 2, 1960. He was cited. The last instance where he was cited took place on June 30, 1961. There were literally dozens of FCC 'intercepts' of transmissions allegedly made by the licensee in which he was reported to be working skip, swearing and uttering profanities against various religious and racial groups.

Noting that the matter of alleged violations began on August 2, 1960 and did not in fact terminate with the lifting of the licensee's authority to transmit until November 16, 1962 when the case was summarized, outside sources at the Commission speculate that the cost of handling the case through to its conclusion was probably in excess of $50,000!

There is little question, whatever the exact undeterminable figure of cost may be, that this case was one of the most expensive cases of prosecution ever conducted by the Commission.

In citing the several dozen 'intercepts' of alleged violations of the licensee, the Commission noted 25 separate violations of section 19.61 (a) alone.

Some of the less racy but none the less caustic 'intercepts' made by the FCC of the station in question went like this:

"Uh, somebody is throwing a carrier on you there. We'll get off here . . . smart alec, he don't have brains enough or guts enough either to sock a man in the nose or attempt to . . . babies like that on here. We ought to give him a bottle to suck . . ."

Or, putting the show on the other foot, when the licensee in question himself indulged in blank carriers and then heard criticism of his actions . . .

". . . I understand there was some objection to this station throwing an unmodulated carrier on here a few minutes ago. This

CONTINUED—Page 48

ELECTRONIC WHOLESALERS

FIRST IN THE SOUTHEASTERN U.S. WITH

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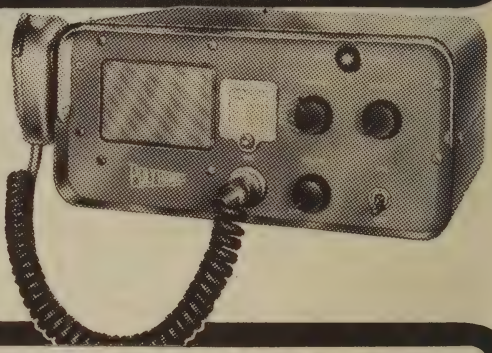
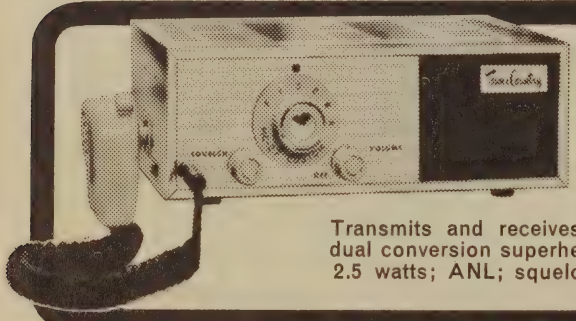
CITIZEN'S BAND TRANSCEIVERS

POLY-COMM "N" TRANSCEIVER

189.95



By Polytronics Lab., Inc.; receives and transmits on 4 channels; 117 volts ac or 6 or 12 volts dc; 17-tube performance plus rectifiers; dual conversion superhet; Sensitivity—0.15 uv; adj. squelch; NL; output—4.5 watts; modulation—95% to 100%.



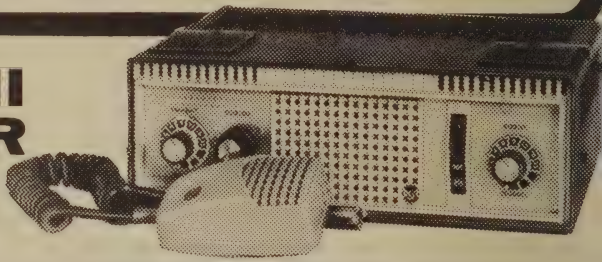
UTICA MC-27 TRANSCEIVER

142.50

Transmits and receives 6 channels; 117 volts ac or 6 or 12 volts dc; dual conversion superhet; modulation self-limiting to 100%; output 2.5 watts; ANL; squelch; weighs 11 lbs.

RCA MARK VIII TRANSCEIVER

149.50



Personal dependable communications; compact—weighs just 9 lbs. with microphone; self-contained 117-volt AC power supply; separate DC power supplies for 6 or 12 volt mobile use optional; 3½" high, 11¼" wide and 8" deep.

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9390 N.W. 27th Avenue
Phone OX 6-1620

ATLANTA, GEORGIA
5430 E. Ponce de Leon Ave.
Phone 938-1080

WINSTON-SALEM, N.C.
938 Burke Street
Phone PA 5-8711

MELBOURNE, FLORIDA
1301 Hibiscus Boulevard
Phone PA 3-1441

you normally listen on (for DX). A station reading about your desire to 'log his state' may then know to contact you for a 'schedule'. A schedule might go like this.

You need Montana. So you drop a note to CBH and we print the fact you need Montana. A Montana station sees your plight and drops you a note. He tells you that he operates on channel 14 in the afternoon directing his dirt hauling trucks. Armed with this information you wait until the 14th call district is coming through some fine afternoon. Then you flip to channel 14 and wait until you hear his station coming through.

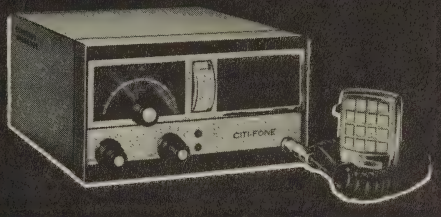
A CB QSL card to his attention will bring you one in return because you have already heard from him once. After all, he told you when he was active, and where. Bingo, you have a CB friend for life!

NEXT MONTH

With the May issue our regular news column 'DX and Awards' kicks off with a bang. If you haven't sent in your latest DX News, why not take a minute to do it now following the outline given in the March inaugural report on this project.

...THE STANDARD FOR COMPARISON!

MODEL CD-7 CITI-FONE



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CITIZEN BAND STANDARDS BY SONAR

When performance is critical and reliability a necessity SONAR CAN BE DEPENDED UPON. CB standards of Sonar must and will always be above and beyond what is expected. Write for full particulars.

MODEL G Featuring the NEW Sonar noise silencer. Dual conversion • RF output meter • Signal strength meter • Crystal spotting switch • illuminated panel • 8 channels crystal-controlled • Receiver tunes 23 channels • Class "B" modulation

Complete with 1 pair of crystals and microphone **$229.50**

MODEL E FCC type accepted • 8 channels, crystal-controlled transmitter/receiver • Tunable receiver for 23 channels • Powerful transmitter 100% Class B modulated • Automatic noise limiter • Lightweight, compact.

Complete with 1 pair of crystals and microphone **$179.50**

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DATELINE - "CB INDUSTRY"

NEW PRODUCTS, SERVICES FOR 2-WAY RADIO

REGENCY ANNOUNCES SIDEBAND UNIT

The first single unit completely intergrated sideband transceiver unit to appear on the CB market has been announced by Regency Electronics, 7900 Pendleton Pike, Indianapolis, Indiana.

The new concept in Citizens Band transceivers has been dubbed the RANGE GAIN by Regency. The unit features double sideband reduced carrier (D.S.B.R.C.) transmitter operation, which is essentially a double sideband approach to sideband transmitting mode.

According to Regency, the RANGE GAIN unit affords "up to four times the coverage of previous units."

The new set will have these features: 23 channel crystal controlled operation, 4-way illuminated meter with two scales (the meter glows red on transmit), illuminated 23 channel selection, antenna matching adjustment for resistive loads of 30 to 75 ohms.

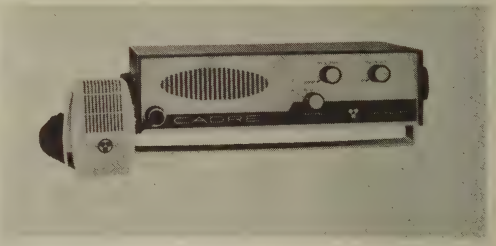
The four-way switch reads out receive signal strength, transmitter output power, transmitter plate current and transmitter plate voltage. Other features include a plate tuning control to peak final transmitter stage output, improved AVC operation to reduce local station overload by 10 to 20 times on receive, vernier fine tuning of plus or minus 5 kc for stations slightly off channel, and an external speaker terminal set.

The new set will have a 12 month warranty on the unit and crystals according to Regency. Operation is from 12 vdc and 117 vac or 6 vdc and 117 vac.

Weight of the new unit is 13 pounds and size of the unit is 11 inches wide by 4½ inches high and 8¾ inches deep. Regency advises the price range of the new unit will be "$250.00 complete."

CADRE'S NEW MODEL 515

A five channel Citizen Band transceiver designed for commercial and professional CRS applications is now available from Cadre Industries. The new Model 515 is completely transistorized, meets the latest FCC and DOT regulations, and is priced at $187.50.



Modular construction of the transmitter, receiver, audio section and power supply permits packaging of a compact nature with extremely low current drain. Built-in speech limiting, squelch, automatic gain control and nose limiting are featured. The unit weights in at just six pounds, with physical dimensions of 11½ by 3¼ by 5½ inches.

The Model 515 has 5 transmit and receive crystal controlled channels. A matching rechargeable battery pack designated

the 500-1 adapts the 515 to a lightweight portable transceiver. The pack, which includes a telescoping antenna for portable operation, costs $29.95. Six volt nickel cadium batteries are $10.95 each.

Additional information on this new unit from Cadre may be had by writing to the firm's Commercial Products Division, 20 Valley Street, Endicott, New York.

BROWNING NAMES NEW UNIT-'DRAKE'

Browning Laboratories, Inc., Laconia, New Hampshire have named their new six channel mobile Citizens Band the 'DRAKE.'

Designed and manufactured by Browning, the Drake M-506 features the same components and tubes found in Browning CB base station equipment. The unit is 8 inches wide, 3 inches high and 9 inches deep. Drake M-506 owners can convert their unit to 23 channel operation by installing an all channel switch available from Browning. Other features include a rear-channel lighted indicator, transistorized DC supply that can be mounted external from the transceiver in vehicles with limited under-dash room, 5 watt plate power input, 3.5 watt power output to the antenna and 0.4uV receiver sensitivity for 10 db signal to noise ratio.

Browning also has a 23 channel mobile unit (Drake M-523). Full information is available from the firm at 100 Union Avenue, Laconia, New Hampshire.

NEW 100 MILLIWATT BASE UNIT-AC OPERATED

Concord Electronics Corporation of 809 North Cahuenga Blvd., Los Angeles 38, California has just released a new 100 mw base station transceiver unit that includes the option of 117 volt AC base station operation. Because the unit is limited to 100 mw input, no Part 19 license is required.

Concord claims 20% greater output efficiency with the new unit, due, they say, to a unique antenna loading coil arrangement.

powerful and portable

POWERFUL—5-watts, 5-channel crystal-controlled channels, 100% all-transistor, the Cadre series of transceivers can be used in any vehicle, boat or office. They deliver sharp, clear reception over the greatest transmission range possible in the 27 mc citizens band. Five fixed crystal-controlled channels spell accurate, fast communication contact. Sensitive dual superheterodyne circuit responds to weakest signals. Tuned ceramic filters increase selectivity. Reception is clear, free of noise—automatic noise limiter defeats ignition noise; adjustable squelch eliminates annoying background signals. Extended range AGC provides uniform audio output. Solid state circuitry throughout means no heat problems, no tubes to burn out, ability to withstand vibration and shock, negligible current drain, compact size.

Four Cadre 5 watt, 5-channel models — one is best for you.

CADRE 515—AC/DC unit for use anywhere. $194.50

CADRE 510—AC/DC unit. 23 channel manual tuning. $209.95

NEW! CADRE 520—DC only with DC power cord and mounting kit—ideal for mobile and portable use—operates from 12 volt auto battery or special battery pack. $187.50

NEW! CADRE 525—for complete field portability. Standard AC cord permits recharging of two built-in nickel-cadmium batteries, telescoping antenna, carrying handle. $269.95

PORTABLE—Power is only a part of the story with Cadre transceivers. These units go anywhere—operate anywhere. An optional accessory, (Cadre 500-1 Portable Pack) adapts Cadre 510, 515 and 520 for field use. The Portable Pack is a lightweight case which contains rechargeable battery supply (two 500-2 nickel cadmium 6-volt batteries). These units can be used for base or mobile application as well as in the field. Cadre 5-watt models in the Portable Pack weigh less than 9 lbs. Cadre 500-1, $29.95, Cadre 500-2, $10.95.

For the finest CB transmission anywhere, rely on Cadre. For literature write:

4 CADRE 5-WATT, ALL TRANSISTOR CB RADIOS

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MORE . . .

PART 19 COMMENTS

Last month's episode in the continuing Part 19 story ended about the time the deadline of January 15th was approaching. The flurry of last minute comments filed right around the 15th of January equalled and surpassed the total number of comments received by CB Horizons and the FCC up to that date.

There is, then, **this month** a large number of well designed and carefully thought out comments originating from business firms, CB clubs, manufacturers and CB'ers.

Before this report appears in print the second week in March, the March 4th **extended deadline** will have passed. In fact, as this reaches you those groups and individuals who filed comments with the Commission will be plowing through mountains of paper mailed to them from the Commission, in an effort to file **reply comments** before the March 19th Reply Comments deadline.

Not much has changed since last month. The quantity has merely increased. There are still a few comments showing up which **commend** the FCC for its efforts to clean up CB, but by and large the comments filed are mildly to highly critical of the Commission's proposal.

Let's tackle the comments filed by manufacturers and sales - service outlets first this month.

Connely Sales Company, La Mirada, California (they filed that petition in December 1960 asking that single sideband be allowed on CB) started off with "This is evidently the showdown. We submit that the Commission, now under fire from both the commercial and hobbyist users of the C.R.S., has a mandate from each. We will not comment on the reasons leading to the generation of these mandates on the assumption that the Commission is already blushing; but they **do** exist.

"The Commission has provided very amply for a broad scope of commercial and business radiocommunications in other parts of its Rules. There exists an excellent technology-based Amateur service. And we observe that, intended or not, the Citizens Radio Service has become precisely, compellingly, and explosively that: A radio service in which **citizens** operate for whatever reasons serve their interests.

"Now we note that many benefits have stemmed from the Class D Service. Business people try CB and then often graduate to the protected and superior commercial services tailored to their needs. Small businesses find the band to be like **sex** . . . pretty good even when its bad.

"We also note that the Citizens Radio Service has contributed significantly to the national economy. However, inadvertent this effect, it reflects to the credit of the Commission; new manufacturing and retail business provide jobs and pay taxes for the benefit of the entire country and we applaud this additional American strength.

"We understand the Commission's natural abhorrence to the free-for-all aspects of the Citizens Radio Service but submit that the multitudinous benefits should outweigh the governmental urge to regulate. We agree that some operational regulation is needed, specifically the existing time limitation on transmissions . . . But mainly we feel that the dedication of 300 kilocycles in the 27 megacycle region is a relatively cost free concession by the Commission to the will of the people. Government can be rather oppressive at times and this seems a useful spot for a dash of freedom . . .

"We take this opportunity to wish the Commission all the luck in the world. You certainly need it with this barrel of snakes."

Mobil Electronics, Inc. (John M. Hart, President) of Anderson, Indiana went on record with ". . . we oppose any restrictions made against communications between stations of licensees. Many Citizens Band stations are used where wire-line telephone is not available, impractical or too expensive . . . To limit these calls to five (5) frequencies would place unnecessary hardships on stations already equipped for this use and would make present equipment obsolete . . . (and) these frequencies would become so crowded they would be of no use especially in an emergency."

Charles Messenger, Vice President of **General Radiotelephone Company,** Burbank, California told the Commission "To overnight tell the 370,000 Citizens Radio Service Class D licensees that they can no longer use their equipment in the manner in which they have been using it, and in the manner in which they have until now been led to believe they could use it, is gross miscarriage of justice. Other radio services when faced with major regulatory changes which would considerably modify the usefulness of the equipment have been allowed up to five years in which to make the change over to new equipment. This at least protects the poor radio user from having on his hands an investment in equipment which is suddenly overnight rendered useless by Government decree . . . "

Specialty Engineering and Sales Company, Albuquerque, New Mexico suggested to the Commission that the height of the transmitting antenna be measured not at the tip of the antenna but rather at the feedpoint of the antenna, where the transmission line connects to the array. They noted "(under your proposal) A vertical antenna ½ or ⅝ wave length long would be only 2 to 3 feet off the ground which is ridiculous and very impractical. If 20 feet is to be the height then it is felt that the feed point should be the parameter."

Gardiner G. Green, President of **Browning Laboratories, Inc.,** Laconia, New Hampshire took the matter directly to his State Senator, Thomas J. McIntyre.

In his letter to the Senator, Mr. Greene noted ". . . It is understood that the automobile industry in Detroit is planning to design CB facilities in the new cars of the near future. The use of CB radio in time of national emergency, with hundreds of thousands of mobile units available to provide instantaneous communications **not** requiring outside power facilities, is obvious. There have been hundreds of unselfish emergency communications acts performed that have aided in the protection of life and property. At the present time, there are approximately one million CB units available for any local or national disaster.

Most of these, of course, are mobile and there is no limit to the usefulness of these communicators in a time of national emergency.

" . . . The FCC recently has proposed a number of changes in the rules pertaining to CB radio under Docket No. 14843. The new proposed rules are restrictive as compared to the original authorizations and may seriously curtail the use of the CB radio band in the future. Outside pressures from various sources must have been brought to bear. CB, in a small way, competes with the telephone companies and, more directly, with regular FM 2-way mobile communication interests. The Amateur Radio fraternity has not been entirely cooperative toward CB since the CB band was formerly authorized for Amateur use."

William L. Detwiler of **Radio Specialists Company,** Denver, Colorado suggested in a vague sort of way the very thing that the International Crystal Manufacturing Company, Oklahoma City, Oklahoma has now proposed, an area in the radio spectrum for hobby communications and where people who just want to talk can carry on without fear of stepping on the toes of others.

Said Radio Spec, "It is stated that the purpose of the Citizens Radio Service was not to provide hobby types of communications, and that the Amateur Radio Service is the service for this type of communication. However, the very large number of violations observed in the Class D service should show that there is a need for hobby type communications which **is not** met by the Amateur service. Unbelievable as it may seem to those who make their living from radio communications, there is a large segment of our population that wants to buy a radio and get on the air and talk to somebody. Many of these people have an interest only in carrying out conversations over the air and have no interest in learning enough technical matter to obtain an Amateur Radio license. It is our belief that the serious purposes of both the Citizens and Amateur services could better be carried out if some provision was made for people who "just want to talk." If such a provision were made, and specific frequencies set aside for the purpose, the Amateur bands would be freed of many of those who have no serious technical interest in radio, and the "strictly business" portions of the Citizens Band could also be spared those who have no business purpose in utilizing radio communications. In view of the numbers of people who want to use Class D radio for simple "play" purposes, certainly it is in the public interest to provide a relatively small number of channels for this purpose."

W. Vernon Hargreaves, Jr., Chief Engineer for **Polytronics, Inc.,** Clifton, New Jersey wrote of the concern of manufacturers for the future of a Citizens Radio Service should the FCC proposals go through. Said Mr. Hargreaves " . . . In September of 1958, in accordance with the then valid rules, Part 19, Polytronics undertook to produce a Class D Citizens transceiver which was completely in accord with the rules. This unit did not contain an 'S' meter or any other device intended for "Hamming". The frequency determining elements such as crystals were only accessible after removing a sealed door at the rear of the case. The design of this device was intended to appeal to the businessman, as we felt the same was in accordance with the Commission's purpose of establishing the Class D service.

"About a year thereafter, we found our business was being hurt by the **new breed** of Citizens Banders that craved "S" meters, multi channels, tunable receivers and the like. In order for our company to

DEMCO ELECTRONICS, INC.

presents

THE ALL NEW MOBILE

"Travelier"

For the skilled CB operator who wants professional performance at a moderate price, the DEMCO "TRAVELIER." Designed and built by CBers . . . for CBers! Licensed are invited to "Test Drive" this ALL NEW MOBILE UNIT! Check with your nearest dealer at once.

OUTSTANDING FEATURES

Transistorized Power Supply — "S" Meter for reading relative field strength — Audio Spotter — Automatic squelch control — Noise canceling amplifier for positive squelch on noise impulses — Power Requirements: 12 volts DC (115 VAC conversion can be supplied) — Illuminated dials on transmit and receive selector — Convenient sie, 9½" x 5½" high and 10½" deep — Color: Chrome plated perforated steel cabinet with black and chrome face.

RECEIVER

9 tube superhet circuit with RF stage — Sensitivity: 1 Microvolt for a 6 db signal to noise rato — Selectivity: 3.5 KC at 6 db down — Four crystals controlled receiver — 23 channel tuneable — Input impedance: 50 to 70 OMHS.

TRANSMITTER

23 channels crystal controlled — Plate power input: 5 watts — Power output: 3.5 watts minimum — AM plate modulation automatically limited to 100%.

DEMCO ELECTRONICS

INC.

BRISTOL, INDIANA — Ph. TH 1-4875

survive we found it necessary to meet this competition by also producing equipment to fulfill the desires of the now abundant CB'er who rates his equipment by the maximum power output, sensitivity and number of knobs on the front panel.

"We would like to suggest that the Commission consider the problems that would be imposed upon the manufacturer and his distributors if Docket Number 14843 becomes effective.

"Firstly, there are three products presently in production here at Polytronics, and in stock, that would be completely obsoleted by the new enforced Rules. These products are those that include "S" meters, tunable receivers, 23 channel crystal synthesis circuits, PA facilities and the like which would appeal to those persons who are contemplating buying equipment for use as a Citizens "ham."

"Secondly, our distributors throughout the country, we believe, would find a great deal of customer opposition to the purchase of such equipment once the contents of the Rules of Part 19 is made effective.

"Thirdly, it is our belief that there are many manufacturers, many of whom are much larger than ourselves, who would be more severely hurt economically by Docket 14843.

"Therefore, we would like to propose at this time a simple change to Docket 14843, which in our belief will satisfy both the Commission and eliminate the pending economic crisis ahead.

"While it was obvious right from the start that the Commission had no intention of making a Citizens ham band, it **has** happened, and this fact is half the lifeblood of our corporation. It is, therefore, suggested that Section 19.31 (d) which contains a list of available frequencies for use by Class D mobile stations and in particular the frequencies 27.105, 27.115, 27.125, 27.135 and 27.255, be set aside for intercommunications between units of the same station and between units of different stations **regardless** of the distance between stations."

CLUBS

Clubs in particular were in the thick of the comments filed as the month of January wound to a close. Many of the clubs had held off communicating with the Commisson in an apparent effort to wield as much force in their local areas as possible. Many club groups sent Committees to talk with the Congressional Representatives from their districts before the respective Senators and Representatives returned to Washington for the opening of Congress.

The **Arkansas Citizens Band Radio Club**, an association of Citizens Band Radio Clubs in the state of Arkansas, Tucker Moore, 8W2670 President, commented "It is our recommendation that the maximum height of antennas be increased from 20 feet to 40 feet. This additional antenna height would enable many licensees to overcome in part many transmitting and receiving problems now encountered by the **fixed** station and **mobile** station due to terrain and building interference.

"It is recommended that the number of frequencies available for intercommunication between units of the same station and between units of different stations be increased from five (channels) to ten (channels) and that frequencies 27.035 Mc/s through 27.255 Mc/s (channels 14-23) be designated for that purpose.

" . . . While the primary intention of the Class D stations was to provide radio communications between units of the same station, experience should now show that there is a very definite need for intercommunications between units of different stations. This is true in the field of business as well as personal activities of the licensee. It is our opinion that the tremendous and unprecedented growth in the Class D radio is due to its ability to provide substantial short distance communications. Some of the proposed rule changes would, in our opinion, destroy much of the usefulness of the Citizens Radio Service."

The Five Watters of Monterey County (California), Arthur Wilkins, President, objected to the Commission's designating channels 12, 13, 14, 15 and 23 for inter-licensee communications and the obvious disregard of channels 9 and 11 which are used almost exclusively for interlicensee calling and monitoring in most areas of the country.

Following a guideline established by CB Horizons in our filing on December 7th, this group added " . . . Objection is also raised to section 19.31 (d) which would reserve all except five channels for communications between units of the same licensee. This would tend to require that almost all stations operate on only five channels as even the business users have occasion to call, or be called by, other licensees. It is possible that there may be adequate reason to designate certain frequencies for communications between units of the licensee only. If this is the case, we respectfully suggest that these same (five) channels (12, 13, 14, 15 and 23) be given this designation and that the remaining 18 frequencies be left clear for communications between different licensees.

"The Commission has recently been granted the right to levy fines for violations of rules. This right, together with stricter enforcement of the present (existing) limitations are believed to be adequate to clear up most of the problems now existing. Restriction of the available frequencies for most Class D licensees can only be expected to result in an increasing number of violations and greater enforcement problems.

" . . . Objection is also raised to Section 19.92 (b) which would prohibit interconnection with public telephone facilities. Inasmuch as a number of phone patch units are presently in use utilizing acoustic or inductive coupling (pick-up), and this service has become an important business asset with Class D Citizens Radio use, we believe that this type of service should be permitted. Adequate control presently exists to limit this (use) properly. Further, a limitation permitting only acoustic or inductive coupling (pick-up), and used only on communications between units of the same licensee should provide more than satisfactory regulation of the use instead of abuse of this type (of) service."

The Ottawa 5 Watters Citizens Radio Band Club of Ottawa, Illinois voiced their opinions to the Commission on the matter of limiting inter-licensee communications to five channels. Said the Ottawa group, "We feel that this is a detriment to Citizens Band Radio. The Commission, we thought, was trying to clear up the channels, not hinder them. It is not, in our estimation, "to the public interest, (convenience) and necessity (to compress such communications onto five channels)". The selection of the five channels was evidently made without regard to the present interference of diathermy, etc., which is now jamming the air (waves). We suggest that these five channels (12, 13, 14, 15, 23) be given for business use. The curtailment of speech between American citizens is a direct reversal of the democratic principals of our Constitution. This Rule is unfair and unjust.

On the subject of prohibited uses, the proposed curtailment of discussing technical performance of equipment on the air drew this comment from Ottawa. "There are very few Citizens Banders who would have the money available to purchase the proper and needed equipment, let alone the technical knowledge, to adjust and align his own equipment. He has

to rely on other people to tell him when his signal shows signs of being off. This rule, in our estimation, requires everyone to be a 2nd Class License holder. The average Citizens Bander is willing to have his unit repaired when necessary, but he can't hear himself while transmitting so he relies on the other person to inform him if the unit does not sound right. This rule would not, by any means, improve the Citizens Radio Band.

"We, as Citizens of the United States, and (as) radio users urge the Commission to re-word, re-write or retract the proposed changes in Part 19."

The Virginia Beach Citizens Band Club (Virgina), Curtis Twiford, President, objected to the wording of sections 19.25 (4) and 19.31. The group was concerned over antenna height restriction and inter-licensee communications. On inter-licensee contacts, they suggested " . . . this club suggests that those (i.e. all except 12, 13, 14, 15, 23) channels be left open so that stations may make contact between different licensees and **then** switch to channels 12, 13, 14, 15 or 23."

The Virginia State Citizens Band Radio Association, Inc., Jesse L. Jackson, President, didn't exactly echo the sentiments of the Virginia Beach group. Said the state organization " . . . We would like to offer the following recommendations (concerning operating frequencies). For use by business concerns only 26.965 through 27.055 Mc/s (channels 1-8). For use of units of different stations 27.065 through 27.135 Mc/s (channels 9-15). For use of mobile to base operation on a non-business basis, 27.155 through 27.255 Mc/s (channels 16-23). It is further recommended that units of different stations be permitted to make contact without regard to these frequency stipulations, however, the conversation or exchange of transmissions would necessarily be conducted on one of the aforesaid appropriate frequencies."

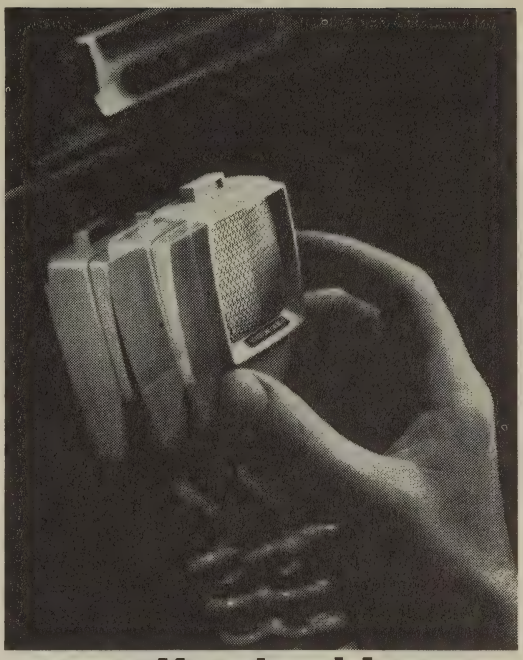
All of which brought up a most interesting point. If you could not work **between** stations on a given channel, and yet the station you wanted to contact was operating on a channel where inter-licensee contacts were illegal, how would you legally attract the attention of the station you wanted to contact so that he woud know to go to one of the channels where inter-licensee communications **was** legal!

This is apparently bothering a number of other club groups too who recognize that the Commission's proposal left a great deal to be desired even **if** the Commission's arguments for additional regulation were built on accurate facts.

The California CB Association, boasting of 1,250 affiliated members, speaking through their President Cecil Turner of Richmond, submitted a carefully prepared 8 page document looking towards a better understanding of what the Citizens Radio Class D Service **really** is, not what the Commission thinks it **ought** to be.

Briefly, this group wrote (under a caption of HISTORY) "The often repeated **original purpose** of the Citizens Radio Service was to **provide . . . for private, short distance radio communications.** . . . Various writings from the inception of Citizens Radio Service carry this exact wording which is then repeated in several proposed changes published in the Federal Register.

"Nor do the definitons set out upon the establishment of Class D service reflect the current FCC interpretation of **original purpose.** The Federal Register of August 9, 1958 on page 6132 defines this service as "A radio communications service of fixed, land or mobile stations intended for personal or business communications . . . and other purposes not specifically



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Kerchunk is the sound made by the heavy duty magnet on the back of a Sonotone CB Ceramike as it mounts firmly, securely to your car's dashboard.

Kerchunk says: "Message to base completed easily, safely."

Kerchunk means no more groping when you return your mike to its dashboard mounting bracket—no need to take your eyes off the road.

Responsible for this boon to those who rely on CB or mobile communication, from car or truck, is an important Sonotone development called "Magnet Mount." A heavy duty magnet on the back of Sonotone Ceramike mobile communications Models "CM-30M" and "CM-31M" lets you place the mike almost anywhere on or around the dashboard. Further, Magnet Mount eliminates the need to drill holes for dashboard mounting brackets.

Sonotone Ceramikes have far more to recommend them than just this amazing mounting device. The quality-engineered mobile communications models, "CM-30M" and "CM-31M" provide loud and clear reception. Inherently immune to extremes of temperature and humidity, they will operate even if immersed in water. Neoprene encased transducers render them shock and impact-proof.

CERAMIKE "CM-30M" — Intelligibility unsurpassed. High sensitivity from −49 db from 60 to 7000 cps. Lightweight, shatterproof plastic case. Convenient "Push-to-Talk" button. Spring-spiraled, 4-conductor shielded cable—list **$16.50** With dashboard mounting bracket instead of Magnet Mount. Model "CM-30"—list **$14.00**

CERAMIKE "CM-31M" — Budget-priced communications model in shatterproof plastic case features excellent intelligibility in 60 to 7000 cps at −49 db sensitivity. 2-conductor coil cable, no switch, list **$16.00.** With dashboard mounting bracket instead of "Magnet Mount." "CM-31"—list **$13.50**

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prohibited in this part.

"A thorough search of the prohibitions sections as set out in 'this part' failed to disclose any dirtct or indirect intent to prohibit communications between units of different licensees. Nor was there any language discovered which even remotely lends itself to such an interpretation. Indeed, in Subpart D, section 19.61 (a), entitled **Permissible Communications,** one finds the following language:

> 'Each station in the Citizens Radio Service is authorized to communication with other stations in the same service.

"Earlier, in the Federal Register of April 1, 1957, a complete substitution of Part 19 had been proposed at page 2607. Subpart D, section 19.51, contained the following language:

> 'A. Each station in the Citizens Radio Service is authorized to communicate with other stations in the service.
>
> 'B. Any station licensed in this service may be used to provide a radio communication service to any person, including the licensee of another station, in the same service'.

"Nowhere in this survey of the official material on the subject does there appear any support for the **Commission's** interpretation of **its intent and purpose in creating the service.** Such intent and purpose, if it ever existed, must have been carefully concealed from those very Citizens for whom the service was purportedly established. Whether or not these proposals are consistent with most of the Commission's present policies affecting the service remains as much a mystery to the **Citizen** as the policies referred to. Certainly, there is little in the way of official regulatory material to inform him, other than the citations issued by the monitoring stations, based upon what the monitors think the regulations are. In any case, to the extent that these **major policies** are inconsistent with the published intents and purposes of the Citizens Radio Service or with the published regulations, there is considtrable room for argument as to their validity.

"It is suggested that the current restrictive moves are without any justification under any interpretation of the official, published purposes, of the Citizens Radio Service. It is further suggested that these proposals, if adopted, are tantamount to depriving **Citizens** of their property without any semblance of due process of compensation.

" . . . It is significant to note that by far the bulk of the Class D traffic in California, and in most other areas, is so-called inter-licensee communications or communications between units of different stations. This proposed rule making is **not** only an extension or interpretation of the **Commission's** (own) original purpose, but is, in addition, discriminatory against the vast majority of the very **Citizens** for which the Citizens Radio Service in general and Class D specifically was created. It is only axiomatic that these moves are proposed upon the complaints of a very small minority of users and that even those they represent cannot make up a very large segment of those licensees presently active in the Class D services."

In closing, the California group noted "It might be pointed out that unreasonable legislation has not been capable of enforcement, as a matter of history. Prohibition was unenforceable because it affected the rights of so many so directly and so unjustly."

The Franklin County (Pennsylvania) **Director of Civil Defense,** through the office of Jacob O. Funk, 20W-3113, wrote objections to the Commission's proposals taking particular note of sections 19.25 (antenna heights) and 19.31 (frequencies available). Said Funk. "(stations) . . . should be permitted to erect Class D transmitting antennas on existing receiving antenna structures provided the proposed support structures do not produce an aeronautical hazard."

Loyal C. Leanitt, KBA1613, writing as the **Director of Civil Defense for the Town of Randolph,** in Maine noted "we find that like many government documents (the pending changes) is not written in laymen's language and (is) therefore confusing.

"We herewith make protest against Part 19.31 (d) regarding changes in Operating Frequencies. If we are restricted to the five channels only for communications between units of different licensees, it would render such communications practically useless.

"Nearly all licensees in this area are in the habit of calling a different station on Channel 11 and then dropping back to one of the lower channels from 1 to 9. At anytime when there has been an emergency anyone operating on channel 11 has been more than willing to clear the channel. We would recommend that at least 15 channels, namely channels 1 to 15, be set aside for calling and operating by units of different licensees and the remaining 8 channels be reserved for businesses, such as taxi cabs, etc.

"We would protest Part 19.66 (d), Duration of transmissions, in its entirety, because we feel that a three minute transmission and a five minute silent period is unfair. Here in Maine practically all transmissions are limited to three minutes on channels 9 and 11, and to five minutes on other channels. We feel that if this section were put into effect it would have the channels more mixed up than ever before."

The group noted they had many more units than those who signed the petition who were in complete agreement with their comments, but who were unable to sign the petition because of bad weather at the time.

The Wabash Valley CB Club of Vincennes, Indiana objected to the removal of 18 communications channels from inter-licensee communications. The group noted that much of the mobile to base traffic in their area is concerned with giving road, lodging, etc., conditions and information to mobile units traveling through. Channels 11 and 9 are most used in their area, and they have always felt, they said, that the Citizens Radio Service was established for the **Citizens,** not just for a special class of Citizens who were in business.

They also objected to proposed section 19.66 (d) concerning 3 minutes on and five minutes off.

And, they noted, "Respectfully we call to the Commission's attention that there is a tremendous amount of interest in electronics in the nation; an interest that is healthy and all for the good; that a tremendous amount of money has been spent that has benefitted both Mr. Average Citizen and the manufacturers of Class D Citizens Band equipment."

The Findlay (Ohio) **CB Radio Club,** representing approximately 140 members, suggested a different form of frequency assignment than proposed by the Commission. Said the Findlay group (Elmer Harmon, KHG-2006, President " . . . (we suggest) channels 1 to 8 and 20 to 23 inclusive be set aside for intra-licensee communications.

(Editor's Note: Still residing on our Part 19 desk are approximately 60 filings from indivdual CB'ers and CB clubs which space will simply not allow us to report on this month. Some of the more impressive of these filings will be included in our wrap-up report on Part 19 filings, to appear in the May issue of CB Horizons)

21,476 COPIES SHIPPED TO DATE (February 5, 1963)

That's right . . . 21,476 copies of the 1963 Citizens Band Call Book Directory have been shipped to date. **And no wonder!** This 350 page book is just jam packed with the call-letters, addresses and locations of the 130,000 CB'ers licensed in 1962, by call area! And, it includes a directory to nearly 2,000 town and city monitoring channels, 1,000 CB clubs, 300 top-notch CB dealers. And much-much more. If you don't have your copy yet, or if your dealer is out of stock, order direct from Horizons Publications, P. O. Box 1557, Oklahoma City, Oklahoma. **Price $4.50 each.** See handy order card on insert page 12, this issue.

Terry 18W3516 Owner of Amateur Electronic Supply

says

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Messenger II 10 ch.	**$169.95**	**$15.12**	**$8.24**	**$5.95**
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In this form this unit originally sold new for $_____. I purchased it ☐ New ☐ Used.

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☐ Send FREE listing of used CB & Ham gear.

Today there are more than 1,500 licensed TV translators (boosters) and everyone is relatively happy. At least the more than 700,000 homes who now have television, thanks to the boosters.

So you see there is hope that a sufficiently aroused public can indeed bring the FCC back into the proper direction. But it does take a demonstration of intent by the public and a willingness to fight for what we want to get the FCC to realize that it can be wrong . . . sometimes.

Of course, times have changed. We have a Democratic President now who has managed to stack the Commission with fellow Democrats (which is all well and good if you are a Democrat). Perhaps the 'party of the people' has been sufficiently successful in stacking the higher up Commissioner bosses in the FCC that the Civil Service GS professional people such as Ivan Loucks are on the spot to give us what the demonstrated majority of the public indicate we want.

One thing's for sure. The hotter we make it for the Commission by continually winning friends and supporters in Congress, the harder it is going to be for the FCC to say no to our request for a small segment of the radio spectrum where the average citizen can truly carry on 'citizens communications.'

KEG2607

ROCKER BEAM—Continued

Find the balance point, and mount the whole affair to a mast or to the stub mast of an antenna rotor. Use ample guy wiring, but make sure that none of the lower elements become entangled with any of the guys.

What the whole thing boils down to is essentially this: The top two forward elements become the radiators or driven elements. The lower two become ground plane or grounded elements. Note that the horizontal cross member, the reflectors and the mast are in no way connected to the front section electrically. This portion of the antenna should be grounded to a good ground such as a cold water pipe.

The next thing to do is match the transceiver to the antenna. Then connect a SWR bridge in the feed line and watch that needle hit bottom for a perfect one-to-one match. You will now know the joy of using a "Rocker-Beam".

CB NEWS FROM WASHINGTON—

continued

station is authorized on 19.61 paragraph (j) to do so and I will quote it: 'A Citizens Radio Station may transmit a brief test signal either with or without modulation as appropriate when necessary for test or adjustments of station equipment . . ."

On the matter of segregated airways, the licensee was 'intercepted' stating ". . . From now henceforth this station will not communicate with any white station in the area that communicates with a (name of race) station in any way whatsoever."

On the subject of patriotism, the licensee allegedly transmitted ". . . The soil of the commonwealth of Virginia is lubricated and fertilized by its faithful sons who died protecting what they believed to be right for this commonwealth."

Not unlike other 'broadcast services', the licensee was 'intercepted' transmitting sign-on and sign-off material such as follows. "Good morning. This is xxxx located in xxxx, Virginia. This station is owned and operated by (his name) and is located at (his address) operating with the expressed authority of the Federal Communications Commission, Washington, D.C. The motto of this station is 'Loyalty to the Sovereign Commonwealth of Virginia'."

So, let it never be said that our watchdog agency, the FCC, does not have infinite patience with our fledling service. A CB'er in Virginia . . . opps . . . an EX CB'er in Virginia just proved how patient it can be, even with a bad apple.

R. N. Adams

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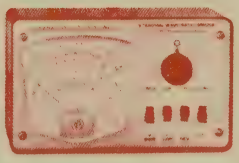
This month *General* is giving away a Model 615 SWR Bridge.



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DRAWING RULES: Enter by simply filling out the self-addressed post card below, and mail it to us before *April* 10th. The winner's name will be drawn, notified by mail, and announced on the inside front cover in General's *June* ad.

Drawing void in any locality or State where prohibited by law. Federal, State and Local Government regulations apply.

Prize winner will be selected in a random drawing conducted by Stanley R. Rader, Certified Public Accountant. Its decision, with respect to all phases of the drawing, will be final.

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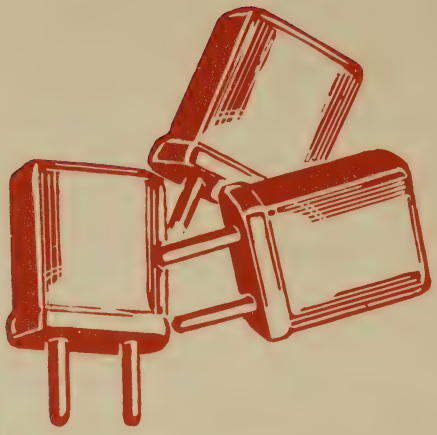

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CITIZENS COMMUNICATIONS

FIRST DISTRICT – KBA/KBC

Lou Garceau, 1Q3004, directed a group of talented musicians at the tremendously successful party at Providence in December. In spite of adverse driving conditions, about 375 CB'ers and friends from Rhode Island, Massachusetts and Connecticut attended the buffet-dance which featured gifts for each child and many door prizes. The affair was organized by Claire Sumners, KBA7117, and Charlie Reading, KBA5589. Publicity was under the direction of Littie Albuquerque, KBA8261, Betty Dennington, KBA6653, and Chuck Taylor, KBA2691. Considering this was the first affair of such magnitude in that area, and that it was not sponsored by a CB club or other organization, the results were most satisfying according to ACCM Knight, KBA5750, Ken, by the way, is working on a complete roster of the clubs in the First District and would like to hear from you. His address is **14 Shadbush Road, Warwick, R. I.** Editor Fred Norwood, Jr., KBA2287, is to be congratulated on his first edition of "The Band Scanner," a very informative paper published for the Five Watt Whips.

Four members of this club recently answered a call by an out-of-town mobile who had observed another car out of commission on Route 3. Responding were Dan LaPointe, KBB0439; Frank Buswell, KBA8199; and Harold Vickery, KBA9887. When the trouble was found to be a defective coil, Bill Fleury, KBA8939, brought a replacement to the scene and the grateful driver was soon on his way. Another good deed was chalked up by this Lowell area club when Walter Barard, 1Q4213, had the misfortune to be stranded with a flat tire, flat spare and no bumper jack. Joe Prud-Homme, KBA2261, answered the call with one of his own tires. The Five Watt Whips meet second and fourth Sundays; their president is Carl Porter, 1Q1035. The Norwalk CB Qui-Co. Citizens Radio League toured Maier's Bakery before their January business meeting. This club monitors channel 11. The 'South Jersey Citizen Band News' was looking for someone to fill the shoes of Walt Payne, 3W3672, who resigned his editorship. New slate of officers will be elected by South Jersey Citizens Radio Club at their February meeting. XYL's of Keystone 11 Meter Club members are forming an auxiliary club. "I'm no artist," moans Jack Hartman, 3W2205, editor of the 'Keystone 11 Meter News' as he solicits help on the artwork for this fine club paper. We'd argue the point with you, Jack, after scanning the classified illustrations; but we do agree with you that contributions to club papers and projects should be representative of the entire membership—CB'ers across the country know that the more you put into a club, the more you will get out of it. Guy Curchoe, 3Q3167, is vice president of this club and was a recent "Keystone Profile." Guy is quite mechanically adept, recently built a snow blower and operates an auto repair shop in Limerick. There are no short-term thinkers on the program committee for Delaware Valley Citizens Radio League! They were scouting for picnic sites in January!

SECOND DISTRICT – KBG/KBI

Murray Cohen, secretary for the Shawangunk 11 Meter Club, advises this a newly formed club of active CB'ers. Their address is Box 5, Ellenville, N.Y. Tell us more, Murray! Vincent Caggiano, Captain in Kadets of America, Unit 30-11, is prospecting for members for Emergency / Storm Communications Club. CB'ers in New Hyde Park, Glen Oaks, Floral Park or Bellerose area can contact Capt. Caggiana, KBG6673, by his landline F17-9282. **Attention all club editors!** Mail your club papers to CB Horizons, Box 1557, Oklahoma City, and let us tell the rest of the nation about your club activities.

THIRD DISTRICT – KCC/KCD

Ed Lewis, 3W4719, awarded a gold star to Stony Adley, KCC1403, in a recent edition of 'Band-Spread.' Wonder why? Tri-County club members are treated to a fine write-up each month in the club personality feature. Other club editors could pick up some good tips by looking over this monthly publication put out by 3Q1478, Joe Miller, and his staff. Spiced by Bud Blenk's clever cartoons and the witty wisdom of Answerin' Sam, the latest edition of 'Band-Spread' was thoroughly enjoyed by the HORIZONS staff.

FOURTH DISTRICT – KCF/KCG

The Queen City 5 Watters of the Cumberland area were advised in the '5 Watts' that sharp looking wooden call letter plaques are available from a CB'er in Wellersburg, Charlie Powers, KIC5084. This club starts the new year with approximately 25 members. Their Advisory Council consists of Richard Mawhinney, KCF0948; Donald Dolan, KCF1132; Steve Hutsko, KCF2365; and George Reynolds, KCF1859. For the second issue of '5 Watts,' Gary Brinkman, KCF1587, had some very pertinent advice for new CB'ers in his article entitled "Your First CB Station."

SIXTH DISTRICT – KDB/KDD

43 signatures were obtained from members of Savannah's Citizens Communication Club on their Document of Objection to proposed Part 19 changes. Dave Carter, KDB0865, with assistance from his wife, prepared the documents and circulated them for signing. 'The C-B Modulator' reproduced a letter received from Senator Talmage who had been copied on the papers filed with FCC. Also reproduced in the club paper was a glowing commendation received from M. Z. Brower, Director of the Chatham-Savannah Defense Council. Kenny Medernach, KDB2514, requests club members to join the Blood Donor Program of Savannah's Red Cross. "For Unselfish and Devoted Service Rendered As President" read the plaque presented to Larry Peevy after he had turned the gavel over to Bud Horton, new president of the Dixie Communications Club. Larry, 6W6576, now has a new job—he is co-chairman of the Stone Mountain Relay Station Planning Committee. His partner in this project is Mel Welch, KDB0264. 'The Dixie Citation' reports a new CB club in Decatur meets the first and third Saturdays at 1905 Janiett Lane—club name is Twilight.

SEVENTH DISTRICT – KDH

Increase your business efficiency, safety and pleasure!

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Universal power supply / Snap-in, snap-out mountings / Plug-in portability / Dust protection / Time-proven reliability.

- **TR327B—Tops for CB enthusiasts.** All 23 CB channels tuneable!
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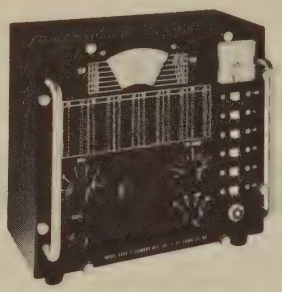

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M. R. Nachman, KDH0554, Southern Florida's REACT Secretary, spoke at a meeting of the Broward Citizens Radio Club. Officers for this club serving the Ft. Lauderdale area are Bud Collins, KDH0879, president; Joe Longford, 7Q7763, vice president; Butch Wolfe, 7Q0517, secretary; Willie Van Antwerp, 7W1594, treasurer. The Board of Directors is comprised of Bob Long, 7W2395; Art Nagy, 7W3659; Lucky Heinz, 7W3163.

'CB Squelch' (Edited by Bill Seymour) reports their local U.S. Coast Guard Auxiliary installed three CB units—base at Bahia Mar and two mobile units on vessels cruising intracoastal waterway and offshore. Prior to obtaining its own equipment, the Coast Guard Auxiliary had to rely on its licensed members who used their CB equipment in controlling traffic during the Gold Coast Marathan. Thoughts expressed by Ed Lander in "CB Chatter" make us stop and think. Ed is former president of the Metropolitan Dade Citizens Radio Club and he mentions the mounting problem experienced by CB'ers who are residents of that area—vacationing CB'ers hamfesting on channel 9—the local calling and emergency channel. When visiting that sun 'n fun land, some people evidently forget that CB rules apply there just like back home! Mobiles from the Hialeah Communications Club participated in the National Cerebral Palsey Telethon telecast from the Miami Beach Auditorium January 26-27.

ELEVENTH DISTRICT – KEJ/KEK

The Kern County Citizens Radio Association, under the leadership of president Joe Hartline, is available to provide necessary communications for all police, fire and civil defence agencies throughout Kern County. They monitor channel 9, standing by to assist CB'ers traveling in this part of southern California. They also provide communications for parades, rodeos and other civic activities. Members of the Arizona Citizens Radio Association have no regrets over passing up their usual Christmas party in favor of adopting an unfortunate family. Requests for canned food and clothing went out over the air and these good hearted CB'ers answered with a large truck full of goodies to make an extra happy day for a family that would otherwise have had nothing.

TWELFTH DISTRICT – KFC

Nine charter members of the Cloud 5 Radio Club opened the new year with the first meeting of this club. Chairman of the meeting was Caroll Deaton, KFC3960. CCM 12Q3113 appreciates the honorary membership extended to him by the charter members, Johnny Walker, 12W4025, reports the Ukiah club drafted a protest to the proposed Part 19. Same action was taken by the 5 Watters of Monterey County at their January meeting. Lynn Gevas, KFC3180-2 advises us of the newly formed club, National C.B. Radio of Palo Alto. We look forward to hearing more about this group. The C.B. Cruzer's Christmas party was a great success. Congratulations to Bud and Mary Heymen, 12Q1676, who added another unit (girl) to their family on the first of January. Approximately 200 protests to the proposed Part 19 changes were filed by the people of Santa Clara Valley. They also sent a night letter to President Kennedy requesting a further check into the proposal. The Santa Clara County Citizens Radio League meets last Wednesdays. Editor of their paper, 'Break Break', is Ed Hoxsie, KFC-0289. The best of 73s to all in the District from Dick Southern, our CCM, who would appreciate hearing from every club regarding their activities. Dick's 10-20 is listed in another section of this magazine.

THIRTEENTH DISTRICT – KFF/KFG

From Klamath Falls, Oregon, Phil Isensee, 13W0648, writes to tell us of their club The Klamath Five-Watters. Phil, who serves as secretary, advises they monitor channel 11. Other officers are Ron Harper, KFF0585, president; and Dave Moran, KFF1046, vice president.

FOURTEENTH DISTRICT – KFI/KFJ

The new RCA MARK VIII 27-Mc 2-WAY RADIO

More Features • Improved Performance • AT A LOWER PRICE

Here is THE outstanding bargain today in a 2-way Citizens' Band radio: THE NEW RCA MARK VIII. Compact, dependable, simple to operate, it outperforms and offers more features than even the famous RCA Mark VII.

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**Optional list price

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Up Washington State way, where the Snake River joins the Columbia, there's a real live-wire CB group known as the Sage and Sand Eleven Meter Band. Club officers are Gilbert Clodfelter, president; Derril Findley, vice president; Jack Stratton, secretary-treasurer; George Sanders, sergeant-at-arms; Frank Swett and Bertie Tyrrell, executive committee. Their club paper, 'C-B News' reports the sheriff's department was aided recently by several mobile units in the starch for a missing handicapped child. This club meets second Sunday afternoons at the Columbia Basin College. We'd like to hear more of their emergency communications program being developed in cooperation with the Kennewick police department. Howard Jacobson, 14W2051, volunteered for publicity chairman for the club. Several carloads of Sage and Sanders recently drove to Walla Walla to visit a meeting of the Walla Walla Blue Mountain Search and Rescue CB club.

FIFTEENTH DISTRICT – KGB

In the Aurora and East Denver area, CB'ers have formed the Aurora CB Radio Association. We like their "Happy to be of service" cards! Charles Chapman, 15W1385, is president of ACBRA. Vice president is Pete Natitus, KGB1690; treasurer, Reese Everhart, 15Q0941. And, Betsy McKinley, KGB1586, is the club's pen pusher who was so kind to tell us all this!

SEVENTEENTH DISTRICT – KGH

Members of the Sioux Valley C-B'ers Club, Inc. recently submitted their formal protests on proposed Part 19 changes. Club secretary is Marvin Parker, 17W5830. District co-ordinator of Sioux Valley C-B'ers, Carol Hane, KGH3343, has organized an emergency communications team (REACT). These eight members maintain a 24-hour monitoring of channel 4. Carol, by the way, is the "little stinker" on the CBL runner-up in February CBH. She and Phil, KGH0895, are also affiliated with the Tri-State Flea Watters. These two clubs work jointly in emergencies.

EIGHTEENTH DISTRICT

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The Morgan County Indiana CB Radio Club has seen plenty of action recently, with the club being called out three times in one month. On one occasion, two men had overpowered the turnkey and escaped jail. The alert was sounded by CB; road blocks set up; and the two rover boys were back in their cells in a short time. The club units aided in locating the smoldering wreckage of a plane and, on another occasion, they joined forces with State Police, Civil Defense and Boy Scouts to search for a hiker lost overnight. It is good to know that, no matter how bitter the weather, CB'ers are the kind of people who readily help in time of need. To the residents of Marion, Illinois, **NORA** means Nite Owls Radio Asscciation! Emil Cornille, KHA2053, writes our CCM about the fine job NORA did in Franklin and Williamson counties with the use of their rigs to help distribute oral polio vaccine. Wayne McHugh, 18W9459, hosted a recent meeting of the club. Tracy Reno, KHA1725, heads up the Circle Radio League of Alton. !Il. Lorraine Hinthorne, 18B4116, and James German, KHB1030, are columnists for CRL's club paper. Another fine club made its first report for this column with 'Squelch', edited by Sandi Rheude for the Central Illiana CB Club. Based in Kentland, Indiana, this club tops the 100 mark in membership. President Russ Laney, of Fowler, calls the meetings to order in the K of C Hall. Madisonville, Kentucky was the scene of the big jamboree sponsored by the Hopkins County Citizens Radio & Rescue Association. Over 400 CB'ers came from Indiana, Tennessee, Illinois, even as far away as Wisconsin! Seven different CB clubs were represented. Ray Melton, KHB1484, from Evansville won the raffle—Pearce Simpson Transceiver. Many door prizes and a free meal served in the attractive park clubhouse—wonderful time was had by all.

NINETEENTH DISTRICT

Merle D. Humes, who lives in the northernmost county of West Virginia, wants everyone to know about the **W.S.T. Citizens Band Radio Club.** This new club had 18 members at the end of the year. In case you're wondering, the initials stand for Weirton, W. Va., Steubenville and Toronto, Ohio. We wish the best of luck to President Humes and the rest of the club—keep us posted! The Cereal City CB Radio Club in Battle Creek has been invaluable during the trying winter storms. They have a very active Ice and Snow Patrol, a volunteer group patrolling the roads to assist stranded motorists. Watch this column for results of CCCRC's elections! A CB'er in Lansing warned police of an attempted burglary of a local shopping center. Floyd Stebleton, 19A4184, heard two youths using hand held transceivers to plan their course of action. He notified police and the youths were 'caught in the act'. We wish to commend certain members of the 5-Watter Club in Lansing for their assistance in relaying a toy donated by a local store to a dying youngster several counties away. Those offering their help wish to remain anonymous; our thanks to every member of the club. The 5-Watters are seriously thinking of obtaining a bus for their Civil Defense work and mobile emergency unit. Lansing area CB'ers who are interested in joining the CeeDee program of this fine club can contact President Glenn Wooten, 19W6899. Good luck to the new South-Lynd Radio Club of Lyndhurst, Ohio. Max Schneider, 19Q-3298, is president. Publicity chairman, Jack Leach, KHG-1227, states the club meets first and third Tuesdays in the Community Center, adjacent to the Lyndhurst City Hall. Club address is Lyndhurst City Hall, 5301 Mayfield Road. The club has standby channel 9 and emergency channel 16.

TWENTIETH DISTRICT – KIC/KID

July 13 and 14 are dates to be circled on the calendar of those CB'ers in the Butler, Pennsylvania area. The Western Area Citizen's Band Club is scheduling the'r **Jamboree** then and it will be held at the Butler Farm Show Grounds. Advance registrations are accepted now at $1.00; after June 1, price is $1.50. Write Jamboree Chairman, Howard E. Jackson, Hazel Street in Zelienople, Pa. or Art Durschinger, R.D. 1, Prospect, Pa. Evening entertainment will include dancing and floor show—there are ample facilities for moving indoors if the weather doesn't cooperate. The Krystal Krackers (serving Oneida and Madison counties, New York) have elected these officers: Jack Marshall, 20W8023, president; Herb VanArnam, KIC4865, vice president; Aletha Marshall, 20Q1329, secretary; Cecile Dixon, KIC2909, treasurer; and Everett Happle, 20W1257, reporter. The Krackers have assignments with Oneida City Police, March of Dimes and Red Cross emergency crew.

for CB radio licensees.

With this in mind, CB Horizons is donating the time and materials to help Walker and his group get off the ground. Our staff is acting in an advisory capacity to the ACBA formulators, and making available our UNIVAC mailing service, file on CB clubs and CB manufacturers, and space in our office facilities.

We feel that a truly national organization for CB'ers is long overdue, and we want to give every possible assist to a group of extremely hard working and conscientious CB radio enthusiasts who are today working to bring such an organization about.

A non-profit corporation charter is now being formulated, and all donations received by the group will be strictly accounted for by the organizers, and credited as advance membership registration fees. The tentative first year's membership has been set at $3.00 per CB'er.

The plan calls for the ACBA to be governed by an elected Board of Directors with one Director coming from each of 20 CB Call-Districts (the 23rd will be lumped with the 14th, the 22nd with the 7th, the 21st with the 11th and the 24th with the 4th). The Board will meet to formulate the policy matters of the ACBA and elect a President. Actual ACBA day to day affairs will be handled by committees made up of members of the Board of Directors, and carried forth by an Association General Manager.

CB clubs interested in having a say in the formation of the Association are urged to start thinking about sending a representative to the first general organizational meeting, which will be announced soon.

In the meantime the ACBA organizers will be hard at work getting together the necessary support to stage the **March on Washington**, and answering inquiries from CB'ers and clubs who indicate a willingness to help get the Association off the ground.

Those who wish to get behind the movement may do so by writing the ACBA at its temporary headquarters. Mail is being received at Post Office Box 405, Oklahoma City 1, Oklahoma and telephone calls may be routed to the ACBA office in the Horizons Building at CEntral 2-1108, Oklahoma City.

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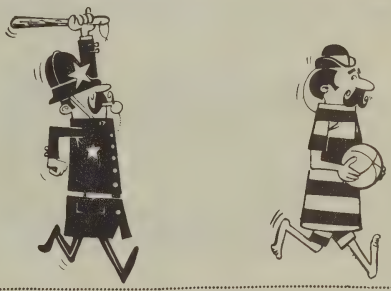

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CB TRANSMITTERS $6.00. Other bargains, send 10c for list. VANGUARD, 190-48, 99th AVE., HOLLIS 23, NEW YORK.

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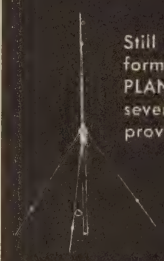

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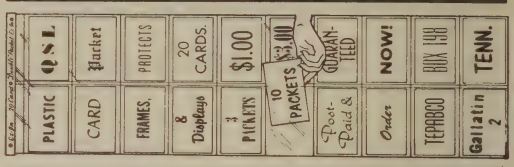

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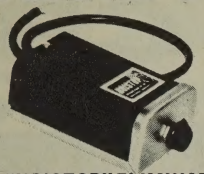

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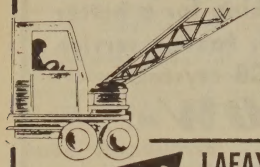

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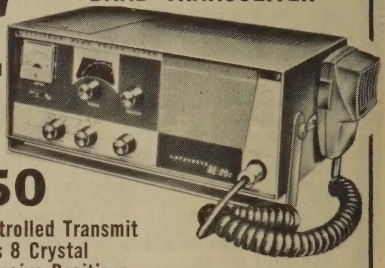

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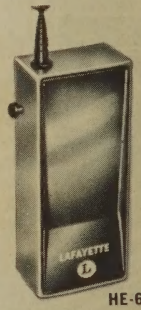

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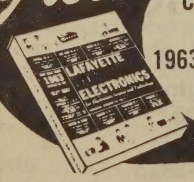

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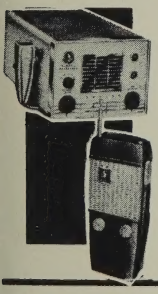

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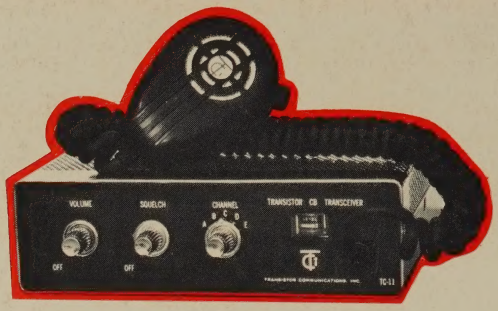
TROUBLE-FREE PERFORMANCE*

*ONE FULL YEAR GUARANTEE



$169.50

NEW ALL TRANSISTORIZED TC-11 TRANSCEIVER

Here is the transceiver you've been waiting for! Full 5 watts input, minimum of 3 watts output. Superior **performance** and **stability** assured by semi-conductor design. **(No vacuum tubes or vibrators to replace!)** Adherance to military equivalent specifications insures lifetime durability. All wiring harnesses are Teflon covered silver plated wire. The TC-11 uses the same type epoxy-fiberglass shockproof circuit board as U.S. space satellites.

Rigid quality control and component pre-testing give you full assurance of TC-11 dependability. Thorough environmental transceiver testing from sub-zero to 150° F and pre-assembly multi-cycling of all relays guard against set failure. **The keynote of every TC-11 design feature is reliability!**

- 5 channels crystal controlled
- 14 transistors, 5 diodes
- Range: up to 20 miles over land, 30 miles over water
- Illuminated "S" meter and RF output indicator
- Entirely new transistorized noise limiter. Extremely effective in suppressing engine noise
- Completely adjustable squelch
- High sensitivity superheterodyne receiver with Clevite Ceramic Filters for superb adjacent channel rejection
- Ultra-low battery drain — ¼ amp on rec., 1.2 amps on transmit
- Operates on 12 VDC without external power supply (TC-11-P power supply for 117 VAC optional, $19.50)
- Compact, 7½ x 7½ x 2¼ inches. 3½ lbs.

TRANSISTOR COMMUNICATIONS, INC.

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